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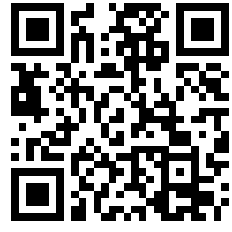

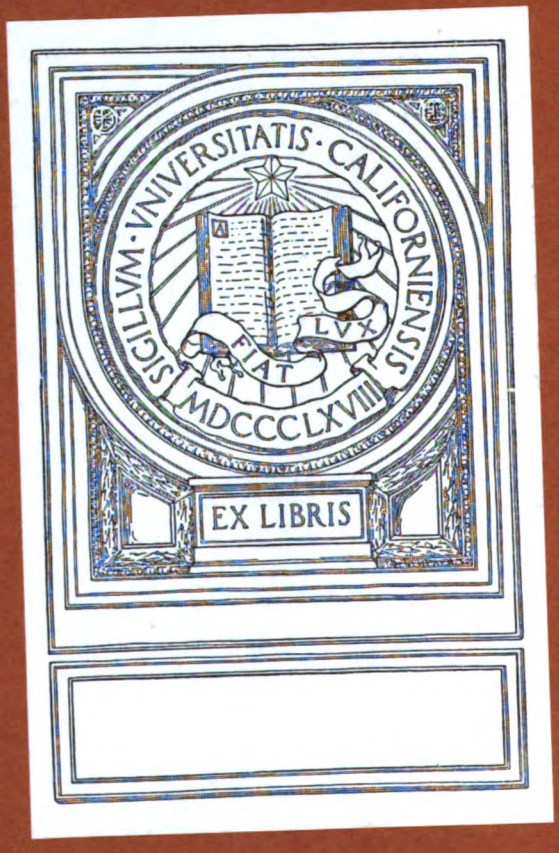

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7th HUSSARS (Orthez, 1814).

"Along that small valley, round by the farm with the poplar trees, and I can get the Squadrons within charging distance without being seen."

From the painting by Mr. Lionel Edwards, and by kind permission of Major-General Sir E. A. H. Alderson, K.C.B.

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THE CAVALRY JOURNAL

WITH THE SANCTION OF THE ARMY COUNCIL.
UNDER THE DIRECTION OF
FIELD-MARSHAL EARL HAIG, K.T., G.C.B., ETC. (COLONEL 17TH LANCERS),
ASSISTED BY
LIEUT.-GENERAL SIR R. S. S. BADEN-POWELL, K.C.B., K.C.V.O., ETC.
(COLONEL 13TH HUSSARS),
MAJOR-GENERAL JOHN VAUGHAN, C.B., C.M.G., D.S.O.,
BRIGADIER-GENERAL A. E. W. HARMAN, C.B., D.S.O., AND
LIEUT.-COLONEL SIR A. LEETHAM, KNT., C.M.G., F.S.A.

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THE CAVALRY JOURNAL

APRIL, 1920.

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EXPLANATIONS.

OWING to the War, the absence of the Managing Editor, and the whole of the Editorial Staff, who were actively employed, it was impossible to bring out the CAVALRY JOURNAL, and it ceased issue with the July number of 1914. It is now being re-started and it is hoped with as great success as it had attained heretofore.

Many of our Subscribers have paid no subscriptions during the War, and this, in view of the Journal's discontinuance, was only reasonable; but some 500 have continued to pay their subscriptions throughout the whole period, and such Subscribers will be glad to know that the balance to the good of the Journal exceeds £1,700.

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The Committee decided that the Journal should be issued in the same form as before, both as to pages, illustrations, and general get-up, but owing to the increased cost of printing, it was decided that the annual subscription should be raised to £1 per annum; but to those Subscribers who had continued to pay their subscriptions up to date the subscription should remain the same as before, viz., 10s. per annum. The price of single copies will be 5s.

The management of the Journal have hitherto relied on having at least ten Subscribers from each British Regiment, six from each Yeomanry and Indian Cavalry Regiments, also liberal support from the Oversea Dominions Corps, as well as from the Royal Artillery and other Mounted Branches; this it is hoped will be maintained.

This year, owing to unavoidable delay in getting our organization set going throughout the Empire, we shall only issue three numbers, but the size of these numbers will be increased accordingly, and Subscribers will therefore have the same number of pages as though the four numbers were issued.

Saint George of 'Merrie England' is, as every good Cavalryman knows, the patron Saint of Cavalry all over the world, but more especially of English Cavalry, we therefore use his badge upon our cover, and the mounted figure is intended to symbolise the thrusting Spirit of Cavalry, and is the badge of the Cavalry School.

Few of us like reading long, drawn-out articles, and every effort is therefore made to place our subjects as briefly as possible before the reader, and it is hoped that our contributors will bear this in mind also.

It frequently happens in reading a magazine that one wants to tear out and keep certain illustrations or articles, especially those which are continued in successive numbers. With a view to helping such readers, the pages have been perforated and each article printed separately.

It will be seen on the title page that Officers have kindly consented to act as the Journal's representatives in other branches of the Service and in the various Overseas Dominions, and we shall be glad to receive (either through them or direct) articles, paragraphs, sketches, or photographs likely to be of general interest to our readers. Officers on the active list writing for the Journal may be under no anxiety as to their

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responsibility, such articles, previous to publication, will be revised by recognised authority.

During the long course of the War innumerable officially unrecorded brave deeds, instances of presence of mind, resourcefulness, and well-conceived, smartly executed tactics by individuals, patrols or small formations of Cavalry occurred which it was not possible to report at length or which were over-shadowed by contemporary achievements upon a more important scale. Many of our more observant readers have a fund of such anecdotes. It is proposed to print records of such incidents from time to time, following the example of the United Service Magazine a century ago, which during a succession of years brought to light a mass of information of the Wars of Napoleon, by which the Character of the Cavalry Service during the progress of these campaigns is disclosed in a manner which no histories, and not even the scrupulously exact and illuminating despatches of the Iron Duke, could compass. It is not only the tabulation, so to speak, of technical lessons which is sought, but the personal note should be struck, for very often a short saying, a jest, a defiant deed, a few minutes of example, an hour of routine, reveal the soul of the fighter and enable us to distinguish the characteristics which have repeatedly achieved that which to the ordinary man seemed to be the impossible.

The Managing Editor is desirous that, as soon as the Journal has become a going concern, a more up-to-date Cavalry Officer, residing in London or its vicinity, should volunteer to undertake the management, and hopes that such Officer may come forward and relieve him at no far distant date.

A.L.

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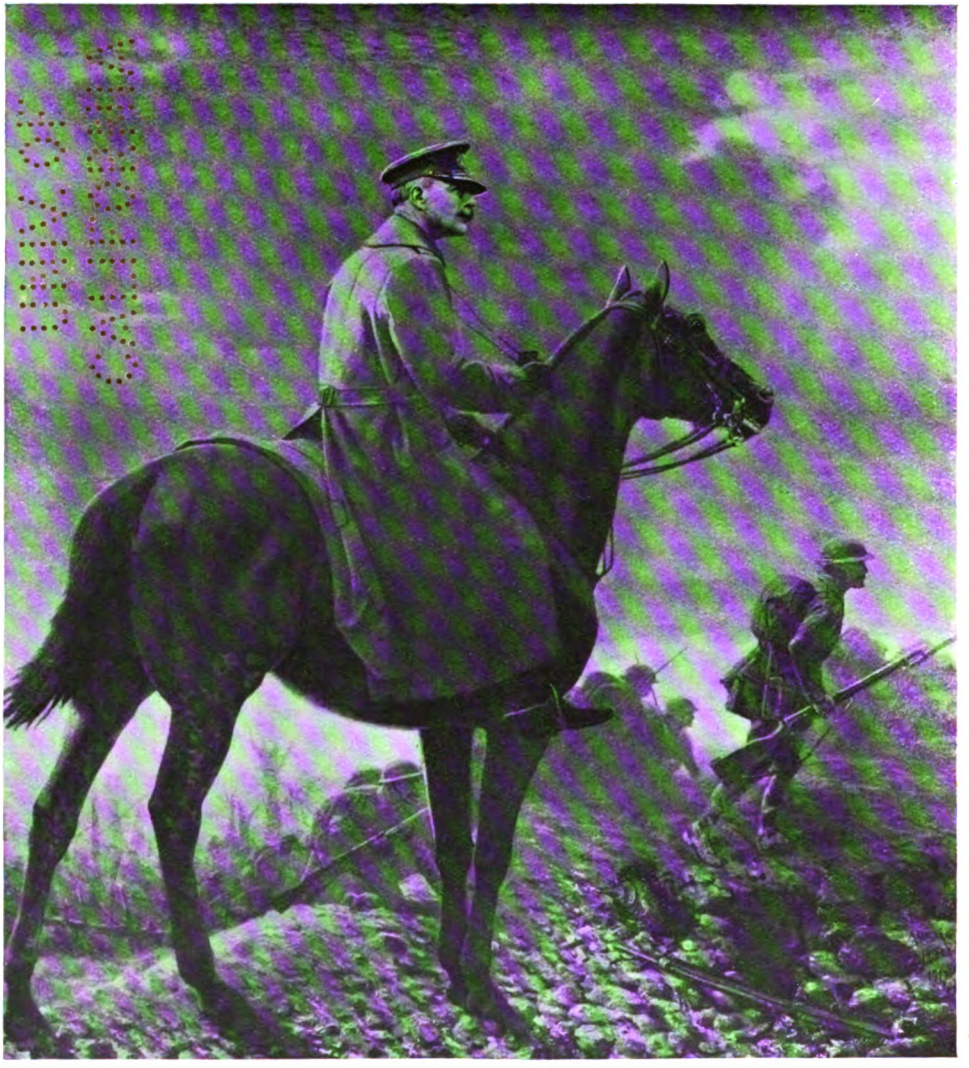

From the painting by Captain Adrian Jones, M.V.O.

Field-Marshal EARL HAIG, K.T.,

G.C.B., O.M., G.C.V.O., K.C.M.G., Colonel 17th Lancers.

Vice-President of the Royal United Service Institution.
Chairman, Cavalry Journal Committee.

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INTRODUCTORY REMARKS.

BEFORE the outbreak of war in 1914, the CAVALRY JOURNAL did much to maintain the cavalry tradition, and to encourage professional study. These reasons for its publication have even greater force to-day. To them have been added others, in particular, the need for a recognised service journal to record the cavalry history and lessons of the war; a journal in the pages of which some attempt may be made to correlate in the light of the experience of the war the policy and principles of the training of cavalry and allied arms, which will seek to cement the fraternity and maintain the traditions of the cavalry within the British Empire, and, finally, will be a record of service games and sport in all parts of the world.

During the past five years the cavalry have sustained (in common with other arms) considerable losses in the field, and these losses have been followed by an exodus of personnel whose terms of service expired on the termination of hostilities. The successors of those who have fallen and of those who have left us will greatly benefit by the republication of such a journal as this.

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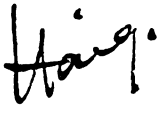
Moreover, the war has extended the duties of cavalry, and has shown them to be much more diverse and complicated than heretofore supposed. The operations of cavalry proved to be on a larger scale than had been anticipated generally, and the history of cavalry in consequence has become a far more formidable study than it was in the past. The CAVALRY JOURNAL should act as a valuable guide to the mass of new matter that will gradually become available, and its technical articles should tend to amplify and exemplify the teaching of the official training manuals and text books.

For all these reasons, I welcome the re-appearance of this Journal and feel sure that it has before it a career of great usefulness.



Field-Marshal.

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ON HORSE MANAGEMENT.

By MAJOR-GENERAL J. VAUGHAN, C.B., C.M.G., D.S.O.

I HAVE been asked to write an article for the CAVALRY JOURNAL on this most important subject. Cavalry derives its special attribute of mobility from the skill of its officers and other ranks in horse management, under varying conditions and in varied climates. It would be impossible to deal adequately or completely with the subject in an article in a journal. Moreover, there are numerous good books published which deal with the question thoroughly, and for all sorts of horses, in and outside the service, *e.g.*, hunters, race-horses, polo ponies, draught horses.

The bulk of the European nations are tired of war for the moment and it seems likely that our next experience of active service will be somewhere on the confines of our Empire. As I have spent most of my life on Foreign service, I think that an article in a reminiscent vein may interest readers more than a bare statement of theories. Our object must always be to learn how to get our horses fit for the particular work they have to perform, or are likely to be asked to perform, even under the most difficult circumstances.

Feeding.—When I first joined the 7th Hussars, in 1891, that regiment was stationed at Secunderabad, where the forage comprised coolthi and haryali grass. Coolthi is a small hard bean, like a very small coffee bean. It had to be thoroughly boiled and then allowed to cool. This was my first experience of feeding horses entirely on boiled foods, and I have ever since been sceptical when people tell me that if you cook horses' food you will ruin their digestions and make them fat inside, or that their

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teeth will drop out. Anyhow, getting them fat inside is a preliminary to getting them big, and that a necessary step to getting them fit. My recollection is that our horses at Secunderabad were thoroughly well in themselves, and had a rare shine on them.

The haryali grass, called 'dhoob' in Northern India, is similar to English couch grass. It has long trailing roots and keeps its sap in the driest weather. It was brought in by native grass cutters, washed and dried. The chief things to see to were that it was really dry before being weighed and that there were no inferior grasses, dirt or stones in it.

From Secunderabad the regiment went to Mhow, where the forage comprised crushed chenna (peas), bran and dried grass from Government stocks. The chenna was a more practical food for soldiers' horses than the coolthi because it did not require boiling. I think, however, that it is rather heating, and one should give horses a good ration of green food and plenty of salt when using it. The grass from the Indian Government grass farms was an abomination. It was not cut till it had seeded and contained very little nourishment. Dhoob, on the other hand, is good feed and sweet.

At Mhow, the Seventh were mounted on Persian and Gulf Arabs horses. The Persians are very hardy, serviceable horses, though they have less quality than Arabs.

My next experience was in South Africa, in 1895, where we took over a moderate lot of leggy, South African bred horses from the 3rd Dragoon Guards. There is no better service horse than the small South African bred, but for troopers I have no use for any big horse bred in South Africa.

Here, again, the forage was different to what I had previously experienced. It consisted of mealies (maize) and oat hay. There are so many sorts of maize that it is hard to assess its feeding value. We found that the small, round, rather red-tinted maize was the best for horses. It should be crushed or soaked and plenty of salt given with it and, of course, as much chaff as possible. The oat hay was excellent. The best samples were from Tartarian oats cut rather green. If possible it should be chaffed.

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From this lap of luxury in Natal, the 7th Hussars went on service in Matabeleland in 1896, and Mashonaland in 1897. In both these countries it was a case of pulling up your belts and tightening your girths. It was a red letter day when we got a grain ration issued, and the horses had to be kept going by grazing and anything we could loot from native kraals. The best grazing was to be found round the ant-heaps and was, I think, nothing but our old friend the Indian dhoob in its African form. There was also a soft, broad-bladed grass of a reddish tinge and a bluish grass that the horses liked. Where the veldt had been burnt there was always young, green grass coming up, but it was unwise to leave the horses for long on this, as it scoured them. Along the river beds, some of the young reeds were useful. We fed on some weird feeds that we got out of Kaffir caves and kraals. I remember a tiny seed like rape, called 'inyouti,' Kaffir corn or millet, mealies, monkey nuts, yams or sweet potatoes, wheat, a smaller millet that grew like a bulrush. We used to boil the very small seeds overnight and make a kind of porridge which we gave cold, in chunks like a cold, ground-rice pudding. During operations a few horses died, but as we had no veterinary officer in the column I was with, we called it starvation, instead of by a Latin name.

We put into Buluwayo for the rainy season and built rough stabling for our horses. There was good grazing, and we got a small ration of grain, and soon had the horses fit enough for race meetings, polo and gymkhanas. After about three months' rest, we marched to Mashonaland, where there was still a war of sorts going on. We found Mashonaland a distinctly better country for grain than Matabeleland.

In 1898, I was attached to the 21st Lancers for the Omdurman Campaign. The horse ration was 10 lbs. of barley per day per horse. There was no grazing to be had. The barley was not crushed and could not be cooked. No bran or chaff was available. The horses got very tucked up and terribly liverish. As we were on the move, marching and patrolling all day, it was not possible to do much to help the horses, beyond giving them their unsuitable ration. For my own chargers—an Arab and a South American polo pony—I took the straw covers from the officers' empty beer bottles, ration one bottle per head per diem. I eliminated the string and cut the straw up with my clasp knife and

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mixed this chaff—which was not very nutritious—with their barley. It did them good, however, and at the end of the campaign my two ponies were quite fit.

In 1898, the Seventh went home from South Africa to Norwich, where I rejoined them. My first experience of English and Irish troop horses there was that they were extraordinarily unsound. I could only find three horses in my troop that had any chance of passing an average vet., if one had wanted to send them to auction. I know now that this was from the then prevalent plan of training Cavalry horses too quickly, and working them too young on ' strong as possible ' field days. When the 3rd Hussars had gone to India, they had bequeathed these horses to the M.I. Subsequent to manœuvres, the M.I. had passed on the entail to ' details awaiting discharge ' under ' officers detached from their units.'

This was lucky for us, as it resulted in our making an intimate acquaintance with Sarcoptes and Dermodectes, twin brethren usually found ' on detachment,' and all experience is useful.

From Norwich, in 1899, I went to South Africa, where I again met with horse starvation, though as we were now operating as brigades, divisions, and armies, it was called ' exhaustion.' It was ' exhaustion,' no doubt, but exhaustion arising from underfeeding rather than from overwork. Exhaustion looks better in reports than starvation. It carries no reflection on the Staff, the R.A.S.C. or R.A.V.C., whilst some may read between the lines, heroic efforts by dashing young Cavalry leaders whose foam-flecked steeds gallop with dilated nostrils, à la Caton Woodville, until they drop.

The following is an episode that I remember. I gave an order to Harry Scobel to seize a drift during the Poplar Grove Battle, and told him to move as quickly as he could with two squadrons of the Greys.

He ordered them to trot, and before they had gone 100 yards, five or six horses fell and were too weak to rise again.

Subsequent to the relief of Kimberley, we had received a nominal 6 lbs. oats per horse per day, supplemented by grazing. On several days we had only received a nominal 2 lbs., and grazing was usually out of the question, because brigades were detailed for reconnoitring missions that might have been performed by regiments or squadrons. Although

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there was insufficient oats or transport to feed the regular Cavalry and Artillery, daily additions to the numbers to be foraged were made by mounting every kind of untrained man on every kind of untrained horse, and thus raising new corps, to be called Blank's Horse or Thingummy's Scouts, causing a further decrease of the forage rations.

The 1st Cavalry Brigade, of which I was brigade major, left Modder River for the relief of Kimberley with 1,500 sabres and 18 Horse Artillery guns. About a month later it marched out of Bloemfontein to Korn Spruit with 150 sabres and 2 R.H.A. guns. Nearly all the horses had gone west through 'exhaustion,' as we did not have many battle casualties.

Later in the South African War it was possible to make better arrangements, and towards the end of the war we were sometimes able to gallop, and even to catch Boers.

I have referred above to a 'nominal' ration. I should explain that this is what is put in orders, sent up from the base or purchased locally, and issued by the R.A.S.C. The real ration is what goes into the horse's stomach, and is between six and twelve per cent. less than the nominal ration owing to wastage in handling, burst sacks, bad nosebags, and other causes. To reduce these 'other causes' every squadron battery troop leader should make a hobby of weighing his forage in war and peace. If the troop leaders have small 7 lb. spring balances, with a 200 lb. balance for the squadron, it has a great moral effect, especially in peace. In war, of course, the horses, like the men, have to go short occasionally, but there is no reason why they should ever go short in peace, with ordinary precautions.

In 1904 I joined the 10th Hussars in India, and got some more experience of Walers and Country breds. I had by now sampled most kinds of feeds for horses, but during my Indian tour with the 10th Hussars I learnt about sugar. Either sugar cane given green or lumps of native sugar called 'goor,' or treacle, or, if you like paying for a name, Molassine. Any kind of sugar is good for horses. It is most easily digested and assimilated in the system, and replaces waste muscular tissue quicker than anything else. The best way of giving it is in liquid form poured over chaff. It even induces horses to eat Indian compressed

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'hay.' If the ordinary commercial treacle is used, dilute it with water in the proportion of two gallons water to one pint of treacle—a little boiling water first and then cold water. Last year I fed my cows on chopped oat straw and this mixture, as hay was short, and I think a good many dairy farmers use it.

In 1911 I went to the Cavalry School and learnt some more about horses, even if all the young officers didn't. Here are one or two outstanding facts. Remounts between four and five years old, weighing about 700–800 lbs. on joining, put on an average of 112 lbs. to their weight in the first twelve months, most weight being put on in spring and early summer. These horses were judiciously and increasingly fed and did slow work only. Between five and six years old, when they were turning fat into muscle, they put on little weight, but they became thoroughly hard and fit for service—or foxhunting.

In training horses for long-distance work, some of the best horses did up to eight hours' exercise per day, and ate up to 18 lbs. crushed oats. The best stimulant after severe work was found to be dissolved and diluted sugar.

In the recent war in France, I gained some additional experience of different types of horses and of different arms of the service. We also found a few new things to supplement rations when they were short, as they were throughout 1918. These included some types of forage that are not found in the books on horse management, such as bully beef, bread, and every kind of vegetable refuse from the cook-house, all boiled up together to make additional bulk. (Fat inside, teeth fall out, ruin their digestions, I hear the critics say). Nettles, chopped and boiled, dandelions, and wild comfrey are excellent extras and keep the appetite sharp, and the coat soon reflects the 'tone' of the animal. Here at Aldershot to-day we are getting thin, small oats, but the situation is saved by good hay, that any hunting man would be glad to get. For horses that are not required to do fast work, good hay is more important than good grain.

Having brought these reminiscences up to date, I will try to condense them, so that readers who have had patience to read so far may have something to reward their perseverance.

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Know your entitlements. Keep on weighing your forage. See that the horses get it in its most easily digested form and as often as possible. Night feeding is especially valuable. Give plenty of water frequently. Get the men interested and so disciplined that the same care is taken whether you are there or not. The disease that Army horses suffer from most is 'empty stomachs.' Keep on filling them, little and often, with the rations that you draw and everything else that you can beg, borrow or steal. Don't believe that any cereal is unsuitable for horses. Give very small feeds of unusual grains well mixed with chaff. Chaff all your hay to save waste. If no bran is available, use hay seeds for mash. Sugar and salt. Feed according to work, and work according to feed, if possible. Don't be afraid of having your horses too fat. You can soon work them fit.

Grooming.—Teach your grooming as systematically as your equitation or musketry. Recruits should be 'dismissed' in grooming and horse management and marked as trained soldiers in that respect when they have attained a high standard. This systematic teaching and training saves the men a great deal in the long run. Never ask a man to groom more than two horses a day. If you are short of men, as you usually are at stables, keep a roster and groom the horses in rotation. This is much better than trying to 'do over' a lot of horses. This makes the men stale and does the horses no good. Experience has proved that if a horse is thoroughly groomed twice a week he will keep well and healthy and never get either mange or lice.

During the war some large London firms had their horses groomed by machinery. It was found that with horses working hard and thoroughly cleaned twice a week there was no skin trouble. Hand rubbing is an excellent thing both for skin and muscle and should be taught to all soldiers and grooms.

The routine that I recommend for horses standing in the open is :—

Early morning.—Hand rubbing to restore circulation.

Midday.—Grooming with body brush, with plenty of weight behind it.

Evening.—Wisping.

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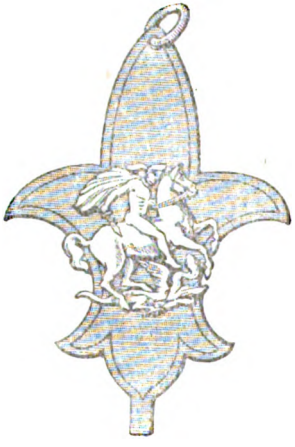
Exercise.—The mistake most commonly made is that all horses are given the same amount, and that generally insufficient. I hate 'exercise'—it makes both men and horses slovenly and unbalanced. If the training programme is well made out, it will provide for long and short days alternately, and if horses do three long days a week, they don't require much exercise on the other days. If 'exercise' has to be resorted to, make it long and slow, and send in the horses requiring least work at half-time.



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LIEUT.-GENERAL RICHARD HUSSEY,
FIRST LORD VIVIAN, G.C.B., G.C.H.

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LIEUT. - GENERAL RICHARD HUSSEY, FIRST LORD VIVIAN, G.C.B., G.C.H.

By COLONEL R. H. MACKENZIE, F.S.A.Scot.

RICHARD HUSSEY VIVIAN, a distinguished Cavalry officer, was the eldest son of John Vivian, of Truro, Warden of the Stannaries; his mother was the only daughter and co-heir of the Rev. Richard Cranch, Vicar of St. Clement's, near Truro. He was born at Truro, on July 28, 1775, and was educated at Harrow from 1787 to 1790. He was then sent to Exeter College, Oxford, for a year with a view to his taking up the law, but his inclinations did not lie in the direction selected for him by his father, and he purchased an ensigncy in the 20th Foot on July 31, 1793. It is doubtful if he ever joined this regiment; for on October 20, 1793, he obtained a lieutenancy in an independent company of Foot, from which, on the 30th of the same month, he exchanged into the 54th Regiment, and was serving under the Earl of Moira on the coast of France from October to the following spring.

On May 7, 1794, he obtained a company in the 28th Regiment, which formed a portion of the reinforcement sent to the Duke of York in the Netherlands. He embarked with the regiment at Ostend, and accompanied Lord Moira's force in its rapid and successful march to join the Duke of York. The 28th distinguished themselves in the sortie from Nimeguen, and young Vivian was left in the place with a picket of the regiment, in conjunction with others, to hold it after the retreat of the army. He was present in the affair of January 8, 1795, at Geldermalsen, and in several slight skirmishes of outposts. He returned to England in June, 1795, and at the end of the year sailed

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with his regiment for the West Indies under Admiral Christian; but the majority of the transports were, in consequence of bad weather, compelled to return. In August, 1796, he embarked with the 28th for Gibraltar, where he served until, in August, 1798, he exchanged to the 7th Light Dragoons, then commanded by Lord Paget, afterwards Marquis of Anglesea. He embarked with the 7th for Holland in the beginning of September, 1799, and was present at the battles of Bergen and Egmont-op-Zee, and several minor skirmishes, returning to England with his regiment in December, 1799. On March 9, 1803, he was promoted to a majority in the regiment, and on September 28, 1804, to a lieut.-colonelcy in the 25th Light Dragoons, from which he exchanged back to the 7th Light Dragoons on December 1. During the time the regiment was quartered in Norfolk, in 1803, he distinguished himself by jumping into the sea at Great Yarmouth in full uniform and, at considerable risk, saving a trooper from drowning.

The war in the Peninsula gave to Hussey Vivian the opportunity of displaying those qualities which were destined to bring him such distinction as a brilliant officer of Cavalry. In October, 1808, he embarked at Portsmouth for Portugal, in command of the 7th Hussars, and arrived at Corunna on November 5. The regiment marched by squadrons to Astorga, from whence it proceeded, with the 10th and 15th Hussars, towards Salamanca to join Sir John Moore, who was pushing forward from Portugal to menace the French lines. Moore's intention was to draw Napoleon from the capital and give time for the Southern provinces of Spain to organise their means of resistance, and for the discomfited Spanish armies to reassemble. It is known with what boldness and ability this diversion was executed, and how it surprised Napoleon. The 7th Hussars, under Vivian, were employed in the enterprise, and a picket of the regiment was engaged on December 21, with the 10th and 15th Hussars, under Lieut.-General Lord Paget, in driving a body of French Dragoons from Sahagun. About twenty of the enemy were killed, and thirteen officers and 154 men taken prisoners, in a sharp sword fight which lasted about twenty minutes.

During the retreat of the British Army to Corunna the Cavalry remained in Benevente, and had parties watching the fords of the little

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river Esla. Soon after daybreak on December 29, 600 Cavalry of the French Imperial Guard crossed the stream and advanced into the plain; the British detachments retired fighting, and a picket of the 7th Hussars was sharply engaged. Being joined by part of the 3rd Hussars of the King's German Legion, they attacked the French leading squadrons. The pickets that were engaged united, and the whole charged, the 10th Hussars supporting in the most perfect manner. Fifty-five killed and wounded Frenchmen lay on the plain, their General—Lefebre-Desnouettes, whose scabbard and tache are in the museum of the R.U.S. Institution—and several other officers were taken prisoners, and many of those who escaped across the river were wounded. The picket of the 7th Hussars suffered severely, nearly every man being either killed or wounded. The 7th Hussars, with the other Hussar regiments, were subsequently employed during the remainder of the retreat chiefly in the rear of the army. And when the British withdrew from their position at Lugo the regiment was left behind to keep up the bivouac fires and cover the retreat. It formed the rear guard until the army arrived within three leagues of Corunna. The 7th, and especially the horses, suffered severely from the cold and want of provisions, and on arrival at Corunna it mustered 205 horses only, out of 680 which had marched from that port about two months before. In all these operations Vivian proved himself a capable commander, and perhaps the most remarkable feature in the campaign ending with the embarkation at Corunna was the uniform success that attended the operations of the Cavalry. They defeated the French in every single encounter, and Sir John Moore said it was 'impossible to say too much in their praise.' Lieut.-Colonel Vivian accompanied the 7th Hussars to England in January, 1809, and was awarded the Peninsula gold medal for the actions of Sahagun and Benevente.

On February 20, 1812, Hussey Vivian was promoted to the rank of Colonel in the Army, and was shortly afterwards appointed Equerry to H.R.H. the Prince Regent, afterwards George IV.

On August 10, 1813, Colonel Vivian embarked a second time for the Peninsula in command of the 7th Hussars. Eight troops landed at Bilbao on September 1, and in the following month, when two additional

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troops from England arrived, the regiment joined Lord Edward Somerset's brigade of Wellington's Army and supported the Infantry at the passage of the Bidassoa.

In command of a brigade composed of the 13th and 14th Light Dragoons, he accompanied Sir Rowland Hill's corps at the passage of the Nive. On December 13 the brigade was engaged with the French Light Cavalry under Pierre Soult, at Hasparen. Sir William Napier, in his history of the Peninsula war, rather severely criticises Hussey Vivian's conduct of this action. But Napier was not infallible, and his account, founded on the evidence of Major W. Brotherton, who commanded the 14th Light Dragoons on the occasion, was, as he subsequently admitted, 'in some measure wrong,' and he promised to set the matter right in any future editions of his work.

After reposing for a short time in quarters during the severe winter, the army resumed operations in the middle of February, 1814, by which time Vivian had been appointed to the command of a brigade composed of the 18th Hussars and the 1st Hussars King's German Legion. Wellington's first object in the campaign was to drive the enemy from their line on the Bidouze and force them from the whole country on the left of the Adour. And when Sir Rowland Hill's corps was sent to turn the enemy's left and cut off their communication with St. Jean-Pied-de-Port, Colonel Vivian's brigade remained with Marshal Beresford's corps in observation on the Lower Bidouze. On March 26 Vivian's Hussars crossed the Gave de Pau and moved towards Orthes on the enemy's right, in the course of which he was engaged in some skirmishes with the French Cavalry.

On the following day Vivian was present at the battle of Orthes. His brigade accompanied the left wing of the army under Beresford in its attempt to turn the enemy's right, and later in the day supported Anson's and Ross's Brigades, and secured the ground beyond St. Boës. Colonel Vivian's conduct in the battle earned for him the approbation of Sir William Beresford, and he was awarded a clasp to his gold Peninsula medal.

Colonel Vivian entered Bordeaux with Beresford on March 12, and subsequently took part in the combat of Tarbes. For his conduct in the

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affair with the French Cavalry at the Bridge of St. Martyn-de-la-Touche, on March 28, he was highly commended by Sir Stapleton Cotton and Lord Wellington, but Napier, on insufficient evidence, misrepresents him.

Colonel Vivian took a prominent part in the action at the Bridge of Croix d'Orade on April 8, in which the 18th Hussars, led by Major J. Hughes, made a gallant attack upon a superior body of the enemy's Cavalry and drove them through the village. About 100 prisoners were taken, and Wellington gained possession of an important bridge over the river Ers, by which it was necessary to pass in order to attack the enemy's position. Colonel Vivian was prevented from taking part in the brilliant charge made by the 18th Hussars. He had just given the order for their advance when he was severely wounded by a carbine shot, which smashed the bone of his arm. 'Go on 18th, my arm is broken. I am sorry I cannot go with you,' had scarcely escaped him when he fainted, and was lifted off his horse, placed on a door, and carried to the rear. Lord Wellington very favourably mentioned Colonel Vivian in his dispatch after the action; he was thanked in Cavalry Orders by Sir Stapleton Cotton; and the officers of the 18th Hussars despatched the following letter to him the day after the action: 'Dear Sir,—In proportion to the gratitude we entertain for the occasion you obtained for us yesterday of meriting your approbation, is the regret we feel, that it should have deprived us, we trust but for a short time, of your continued protection. Although so much above any consequence our compliments and congratulations would give you, yet, with our condolence, permit us to say, we feel and justly appreciate the vigilance, activity and great gallantry with which, on all occasions, and on this occasion particularly, you have sought our honour. As a memorial and tribute of our gratitude, we request that you do us the honour to accept a sword which, God grant, you may be enabled to wield at the head of your brigade.' The sword, which was presented when the regiment returned to England a few months later, bore on one side the inscription: 'Croix d'Orade, 8th April, 1814,' and on the reverse, 'The officers of the 18th Hussars express by this token their regard for, and confidence in, Major-General R. H. Vivian, who was wounded at the head of their regiment.'

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In face of these facts, Napier takes upon himself to say: 'The credit of this brilliant action was given to Colonel Vivian in the despatch, incorrectly, for that officer was wounded by a carbine shot previous to the charge at the bridge: the attack was conceived and conducted entirely by Major Hughes of the 18th.' Colonel H. E. Malet, in his history of the present 18th Hussars, quotes Napier without comment. Indeed, throughout his book, Colonel Malet accepts Napier as gospel without inquiry, and he gives the fullest credence to the historian's version of the action at Croix d'Orade, whereas it was founded on the sole evidence of Major Hughes. A perusal of the correspondence which ensued on the subject, in 1840 and 1841, will convince most people that Colonel Vivian did conceive and direct the attack, and that only his wound prevented his personally conducting it. Major Hughes did, what hundreds of others did during the war—he gallantly carried out an order conceived and directed by a superior officer.

Colonel Vivian returned to England in June, on the 4th of which month he was, at the age of thirty-eight, promoted to the rank of major-general, and in January, 1815, nominated a Knight Commander of the Bath. He shortly afterwards was appointed to the command of the Sussex District. Major-General Vivian's promotion necessitated his relinquishing his connection with the 7th Hussars, to the great regret of all ranks of the regiment. Colonel Sir Edward Kerrison and the officers, to show their affection and high appreciation of his bravery and efficient services, presented him with a handsome piece of plate, valued at three hundred guineas.

On the general renewal of hostilities, in 1815, Sir Hussey Vivian was, on March 10, entrusted by Wellington with the command of the 6th, or Light Cavalry Brigade, composed of the 10th and 18th Hussars and 1st Hussars King's German Legion. He arrived at Ostend on April 21, and his brigade, with the whole of the British Cavalry, was inspected by the Duke of Wellington, in the presence of Blücher, on May 29.

On June 15, Sir Hussey Vivian dined with the Duke of Wellington at Brussels, and in the evening attended the ball given by the Duchess of Richmond. Here the Duke received reports of the advance of the French, and calling the Divisional and Brigade Commanders round him,

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told them to be prepared to move in the morning. Before one o'clock Vivian left the ball-room and repaired to his brigade, which marched at daybreak towards Nivelles; *en route* he received orders to continue the march on the Quatre Bras, where he threw out his pickets and skirmished on the field of battle. In the retreat, on June 17th, the Hussar Brigade formed the rear portion of the left Cavalry column. It had some skirmishing with the French Cavalry previous to crossing the Genappe, or Dyle, river at the bridge of Thuy, where the advance of the latter was checked, and the brigade then marched to the position at Waterloo without further molestation.

On the night before the great battle both armies bivouacked in fields of standing crops, which were saturated with moisture. The British bivouacs were knee-deep in mud, the horses having trampled the crops under foot, and most of the riders slept at their horses' heads with an arm passed through the reins. On the 18th, Vivian's Hussar Brigade, which had left its uncomfortable quarters about 10 a.m., was posted at the extreme left of the line, where it remained until the advance of the Prussians rendered its presence there no longer necessary. The brigade was then moved to the immediate right of the Brussels—Genappe road, and was drawn up in rear of the Infantry, just at the time that several small squares of foreign troops were giving way. And here it was exposed for half an hour to a tremendous fire of shot, shell and musketry. Some time after 5.30, Vivian's Hussars moved to the centre of the position, and, on the repulse of the Imperial Guard about nightfall, were ordered by Wellington to the front. They moved round by the right of Maitland's Guards, and advanced towards the French.

The smoke at this time was so thick that Sir Hussey Vivian could see nothing; but from the fire and the shouting further to the eastward it was apparent that the French were falling back. When the brigade got to the low ground the Brigadier saw in front of him crowds of scattered fugitives and two or three squares of well-formed Infantry, flanked on either side by Cavalry and Artillery. On arriving about half-way, the regiments were ordered by Vivian to form line on their leading half-squadrons, the 10th Hussars in front, the 18th Hussars

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and 1st K.G.L. Hussars in support. The 10th, led by Vivian, who had changed his horse for a white troop horse of that regiment, attacked a superior force of French Cuirassiers and Lancers, and overthrew and dispersed them. Leaving the 10th to reform, he galloped back to bring up the 18th Hussars to continue the work so well begun. He was attacked on the way by a French Cuirassier, and as his right arm was in a sling, from the wound received the previous year at Croix d'Orade, could only defend himself with his left; but with it he contrived to thrust his sabre into the Frenchman's neck just as his little German orderly came up and cut the Frenchman off his horse. Riding up to the 18th, with whom he was a great favourite, Vivian said: 'Eighteenth, my lads, you will, I know, follow me?' and was answered by Sergeant-Major Jeffs (afterwards Adjutant of the 7th Hussars), 'Yes, General, to hell, if you will lead us'; and the Hussars galloped forward with great determination. Some French Horse Artillery attempted to get away across their front, but were ridden over and destroyed. Without a check the 18th, after having first upset some squadrons in their immediate front, inclined to the right on to a body of horsemen, who were covering the retirement of one of the squares which was now falling back. The French squadrons were driven away, and a battery behind them was abandoned by its Artillerymen, all of them flying in disorder.

As the 18th were reforming, Sir Hussey Vivian rode back for the supporting regiment—the 1st King's G.L. Hussars—and he came on a squadron of 10th Hussars under Major Howard, standing near one of the squares of the Old Guard, and he ordered him to attack the square. This attack, led by both Vivian and Howard, has been immortalised by Lord Byron in his 'Childe Harold'; Howard's men charged up to the Frenchmen's bayonets, but though they would not leave the square, fighting desperately with individuals, they failed to break it. The square was shaken, however, and, after some hand-to-hand fighting, Napoleon's grand veterans fell slowly back, and the French were found to be in full retreat. Vivian's brigade halted about 10 p.m., but the Prussian and Brunswick Cavalry pressed the retreating French throughout the night.

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The final rout of the French was completed by the attack of Vivian's brigade, followed closely by that of Vandeleur, and it forms one of the interesting episodes of that eventful day. His services were particularly mentioned in the Duke of Wellington's despatch. He received the thanks of both Houses of Parliament, was awarded the Waterloo medal, the Hanoverian Guelphic Order, and the Orders of St. Vladimir of Russia and Maria Theresa of Austria. If Sir Hussey Vivian committed a mistake, it was, as Sir Evelyn Wood points out, in his excess of zeal in displacing the commanding officers of the 10th and 18th Hussars in leading the charges of those regiments.

Sir Hussey Vivian entered Paris with the Allies, and afterwards commanded a brigade composed of the 12th Lancers and 18th Hussars. He shortly returned home on leave, and was entertained at a public dinner in his native town, Truro.

On September 10, 1821, his favourite regiment (the 18th Hussars) was disbanded, upon which occasion Sir Hussey Vivian was presented by the soldiers of the regiment with a silver trumpet and banner, purchased by their desire with part of the prize money accruing from the horses of the enemy captured by his brigade at Waterloo. Sir Hussey Vivian valued this gift among the highest of his honours. It bore the following inscription: 'On 10th September, 1821, the day on which the 18th Hussars were disbanded, this trumpet was presented to Major-General Sir Hussey Vivian, K.C.B. Having commanded them upon many glorious occasions, they offer to him this memorial of the last victory in which it was their fortune to be led by him, as an assurance that while he gained their admiration as a soldier, he secured their lasting and unfeigned esteem as a friend, and in the hope of living in his recollection and estimation when they shall have ceased to exist as a corps.' *

From February 1, 1825, to July 20, 1830, Sir Hussey Vivian held the appointment of Inspector-General of Cavalry. On January 22,

* On September 10th, 1880, the fifty-ninth anniversary of the disbandment of the regiment, his son, the second Lord Vivian, entrusted this heirloom to the care of the present 18th Hussars, 'believing that in this record of glorious deeds, the memory of his father, who led the regiment to victory on many occasions, will be cherished in the corps whose admiration he secured.'

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1827, he was promoted to the rank of Lieut.-General, and on the following day received the colonelcy of the 12th, or Prince of Wales's, Royal Lancers. On January 29, 1828, he was created a baronet, and on July 1, 1831, was appointed to the command of the forces in Ireland. From 1830 to 1837 he was Groom of the Bed-Chamber to William IV. On May 4, 1835, he succeeded General Sir George Murray as Master-General of the Ordnance and was made a Privy Councillor. On January 29, 1837, he was transferred from the 12th Lancers to the colonelcy of the Royal Dragoons, and on May 30, 1837, was advanced to be a Knight Grand Cross of the Bath. In 1841, on account of his declining health, Sir Hussey Vivian was obliged to relinquish his seat in Parliament and the office of Master-General of Ordnance, and he was raised to the peerage as Baron Vivian of Glynn and Truro. On this occasion he selected for his crest an 18th Hussar holding a pennon inscribed 'Croix d'Orade,' and for supporters a 7th Hussar and 12th Lancer. Lord Vivian did not live long to enjoy the many honours conferred on him, for he died suddenly at Baden-Baden, of aneurism of the heart, on August 20, 1842, at the age of sixty-seven; and was buried quietly in St. Mary's Church, Truro.

Lord Vivian had a distinguished Parliamentary career. He sat for Truro from 1820 to 1826 and from 1832 to 1835; and he represented Windsor from 1826 to 1831, and East Cornwall from 1837 to 1841. In 1834, on the occasion of the installation of the Duke of Wellington as Chancellor of the University of Oxford, the honorary degree of D.C.L. was conferred upon him. He was also a Commissioner of the Royal Military College and the Duke of York's Royal Military School. He was twice married—first in 1804 to Elizabeth, daughter of Philip Champion de Crespigny, of Aldborough, Suffolk; and secondly, in 1833, to Letitia, third daughter of the Rev. J. A. Webster, of Ashford, Co. Longford.

Lord Vivian will go down to posterity as a brilliant Cavalry officer, and as one who played an honourable part in the greatest victory of modern times. His services entitle him to a place in the first rank of Light Cavalry leaders. He was always in the front. He was possessed of fine physique, was a good rider, had an eye for country, and a quick

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perception. In action he was cool and fearless to a degree, and he was beloved by his men, who would have followed him anywhere. The best testimony to his private character is found on the cenotaph to his memory which was erected in St. Mary's Church, Truro : ' His nobleness of character, his charity, benevolence, and integrity endeared him to all who knew him. The widow and the orphan never appealed in vain ; and the deserving soldier always found in him a friend.'

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SPORT.

In General Sir Edwin Alderson's well-known book, 'Pink and Scarlet, or Hunting as a School for Soldiering,'* the author, who has been master of seven packs and now hunts with his own hounds in South Shropshire, demonstrates that fox hunting develops the qualities of a cool head, quick perception of surrounding conditions, and power of instant decision; and he quotes Sir Evelyn Wood's lines †: 'We have one incalculable advantage which no other nation possesses, in that our officers are able to hunt, and than which, combined with study, there is, during peace, no better practice for acquiring the gift which Kellermann naturally possessed.' Kellermann, whose great Cavalry charge upon the flank of the Austrian column at Marengo, while it was engaged in front by Bonnet's Infantry, is a classical example of the opportune attack by resolute Cavalry.

General Alderson writes: 'Should the sceptical wish to go further back for an opinion on this point, let them consider why the Duke of Wellington had a pack of hounds out in the Peninsula. Those must indeed have been grand days to soldier in, to hunt one day and fight the next! What could a soldier possibly want more? How was it that the Duke used to get his information during the campaign, but by using well-mounted Staff officers, which General Marbot‡ tells us, with regret, the French Cavalry were unable to catch? And where was it but in the hunting-field that these same officers acquired that

* Publishers: Hodder & Stoughton. 1913. London, New York, Toronto.

† Achievements of Cavalry, p. 39.

‡ Memoirs of Baron de Marbot, 1799-1854. Longmans, Green & Co. London, 1898.

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eye for country, and that quickness for getting across it, which so effectually baffled the French horsemen?'

It is the object of these lines to ask each reader whether, in this year of grace, after the exhaustion of five years of bloodshed, at a period in the world's history when social unrest, class opposition, sedition and disregard of duty are only too apparent in civilized countries, the remedy is not to be found in the spirit of sport.

If the so-called 'students' in Egypt had studied less theory and more sporting ideals, would it not have been better for civilized interests in the Near East? If sport had not been unavoidably neglected during the progress of the war, would it not have been better for the lads who are just reaching maturity? If England is to maintain the responsible position in which she finds herself to-day, is it not best done by divesting ourselves of pedantry, cant, mercenary selfishness, luxury, and idleness; and by each soldier and administrator in the Empire throwing himself heart and soul into games, the out-door life, the hard life, the bright cheerful outlook of the sportsman, the work and acquirements of the devotee of the chase, including a practical working knowledge of foreign and Oriental languages, or of the dialects of the races with whom he is brought in contact by the inspiring freemasonry of genuine sport? The true Nimrod is always a workman, not a buyer or a passenger, and he is conversant with all that affects the whole gamut of operations which lead up to the capture of the quarry. Thus the big-game hunter is a potential armourer, naturalist, linguist, tracker, stalker, skinner, as well as a spearman or marksman.

Has not every manly exercise its uses in training the man at arms? Major-General E. D. Swinton's story, 'Full-back,' describes how the qualities which enabled a full-back at football to win what seemed a lost game for his school, stood him in good stead when in man's estate, as a fighting pilot he won a battle in the clouds, of vital import to his King and Army.

Are not aviation and all games and manly exercises of value in developing the high qualifications of leaders, which comprise physical and moral courage; bodily strength, energy, vigour and staying power,

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resolution and tenacity, rapid discernment and quick decision, capacity for mental concentration, commonsense, tact, judgment, serenity and cheerfulness, enterprise, resource, and consequently personal ascendancy?

It is much to be hoped that the Royal Air Force will continue to throw wide its doors to the young Cavalry officer, for experience in all nations has proved the mutual advantage to the two closely allied services of such an arrangement. It may even be said that every Cavalry leader benefits as such, by having gained his brevet of air pilot, and that he should be just as much at home in the air as on horseback, because the first duty of a commander, preparatory to the battle, is to thoroughly reconnoitre with his own eyes the ground in his immediate front, and decide upon the actual area towards which he will manœuvre so as to bring about the fight there.

The horse, the noblest of animals, has undoubtedly been instrumental in moulding the characters of many of the great leaders, whose consummate presence of mind, skill and administrative powers were often ascribed to innate genius.

Alexander the Great was a horseman and a hunter. When Bucephalus was rejected by his father as vicious and ungovernable, Alexander, who had observed him well, exclaimed, 'What a horse are they losing for want of skill and spirit to manage him!' Philip dared him to ride the horse, and he undertook to forfeit its price, £2,500, if he failed. He ran to the horse, turned his head to the sun to prevent his shying at his shadow, spoke to him softly, stroked him, leaped lightly upon his back and giving the horse his head extended him at full gallop. On his return his father exclaimed, 'Seek another kingdom, my son, that may be worthy of thy abilities; for Macedonia is too small for thee.'

Julius Cæsar also was a good horseman in his early years, and brought that exercise to such perfection by practice that he could sit a horse at full speed with his hands behind him,* guiding the horse meanwhile with the leg. Sir Evelyn Wood† has recorded that the Iron Duke rode long distances in the Peninsula, keeping in exercise eight hunters and seven chargers.

* Plutarch's 'Lives.'

† Winnowed Memories. Field-Marshal Sir Evelyn Wood, V.C. 1917.

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UNIV. OF CALIFORNIA

"ACROSS THAT BOTTOM OR ROUND THE HEAD OF IT?"

From the painting by Mr. Lionel Edwards, and by kind permission of Major-General Sir E. A. H. Alderson, K.C.B., M.F.H.

The blocks have been generously supplied to the "Cavalry Journal" by Messrs. Hodder & Stoughton, the publishers of "Pink and Scarlet."

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All of Britain's most successful Eastern administrators, as well as the great generals, have been horsemen and hunters. The demagogue, the subtle diplomat, the bureaucrat, and the orator can never appeal to the sympathy of the virile races of the Indian Empire as the sportsman does. Sir Samuel Baker* in the Soudan, raised the prestige of Britain among the tribes of those regions because he was a great hunter, and what the Arabs appreciatively term a *rekab*, the equivalent of 'hard man,' a rider of horse or camel.

Sir Samuel Baker raced with the *Agagir*, or swordhunters, who, with cold steel, rode and cut down the king of beasts and the leviathans of the forest.

A generation later an incident is described in 'Pink and Scarlet,' of British officers on the Nile, at Tani in Dongola Province, taking part with natives in the game of *jerreed* throwing, or spear throwing on horseback, in which palm sticks take the place of javelins. During the progress of the game one of these officers, instead of waiting for the onlookers to hand him fresh 'spears,' leans down at full gallop and picks up from the ground those which have already been used. The effect is astonishing, and afterwards the Sheikhs request to shake hands with the man who has shown himself to be so much at home on a horse. They would do anything for such a man, and would follow him anywhere. Although the fact does not appear in his book, the agile horseman was none other than the author of 'Pink and Scarlet,' who, in later years, when Divisional Commander at Poona, set a splendid example to the community, in a centre which has since become a hot-bed of sedition and agitation, by himself hunting the hounds and playing in the staff polo team.

In the Sudan the stability and popularity of the British administration to-day is largely due to the personal influence of the hunters and polo players, and to the splendid type of civil official, many of whom were university blues or eminent travellers and big game hunters, of the same stamp as the late Major Chauncey Hugh Stigand,† who met a soldier's death in the Upper Nile Valley, in 1919.

* Author of 'Rifle and Hound in Ceylon,' 'Nile Tributaries of Abyssinia,' 'Teufikia,' etc.

† Author of 'The Game of British East Africa,' 'Scouting and Reconnaissance in Savage Countries,' 'Hunting the Elephant in Africa,' and other works.

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During the establishment of the present Government in the Soudan many Englishmen have joined the Arabs in the pursuit of wild game with cold steel. Thus the ibex has been hunted with greyhound and spear with the Bisharin on the Red Sea coast; the buffalo has been brought to bay with dogs and speared in the Hameg forests; the hippopotamus has been harpooned and speared to death in the crocodile infested Nile waters; and the elephant, giraffe and antelope have been hunted with the *Agagir*.

In Somaliland, also, close touch has been indirectly gained with the natives by English sportsmen, and notably by an officer who was the first to spear wart-hog in the Indian style, and won the Victoria Cross in command of Indian troops.

Who was in the saddle when Chandler made the record jump of 39 feet at Warwick in 1847? A Cavalry officer. That shows that sport was not neglected by our predecessors of the great Victorian era.

Among the builders of the Indian Empire, sportsmen were pre-eminent from Warren Hastings' time.

Of the Indian Mutiny heroes, James Outram was a super-man among hunters. His intrepidity in Khandesh had so impressed the Bhils that they became loyal subjects. He was *facile princeps* as a hog hunter, and his many first spears included both boars, bears, nilgai, wolves, hyenas, leopard, and, when alone, a tiger. In Kathiawar he killed a boar with half a spear, the shaft having been broken in two in a fall down a nullah.

In 1827 he shot a tiger in a deep ravine in the Saigaon jungle under circumstances which have become memorable. He was lowered from the branch of an overhanging tree, suspended by the turbands of his Bhil shikaris passed round his chest and under his arms. By this means he was able to obtain a shot at the tiger which lurked below. He fired and was instantly drawn up into the tree again, when turning laughingly to the Bhils, a tribe as notorious robbers as they were famous hunters, he said, 'You have suspended me like a thief from a tree, but I killed the tiger.'

In 1828 Outram speared a tiger which was being smoked out of a cave. With a sweep of its paw the mighty feline broke the shaft of the

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spear, which had traversed its neck, and turned upon Outram, but it was despatched by the rifle-shots of two brother officers.

In 1832 he entered a cave alone and killed a tiger with his first shot.

In April, 1833, when encamped at Sirpur, a tiger was reported in the long grass on the plain. Outram started on foot, spear in hand, a follower carrying a rifle and some six others bows and arrows. He followed the tiger on foot for three miles, and eventually speared him to death.

It may be of interest to mention that from 1825 to 1834 Outram was present at the death of 191 tigers, 15 leopards, 25 bears, and 12 buffaloes. During these hunts five of his followers were killed and four mauled, Outram himself being severely mauled by a panther, and two Englishmen, of a shooting party of five, died of jungle fever; while in 1827-28 Outram's elephant was twice mauled, so it is obvious that there was more than a spice of danger to the great game hunter of a century ago.

It would be invidious to mention the names of the sportsmen who have come to the fore and rendered sterling service in the world war, suffice it to say that the bright example of F. C. Selous, the *doyen* of elephant hunters, was followed by all the great African hunters, and that it was demonstrated that the rider, the fox-hunter and the hog-hunter were the men to lead, to act, to execute, and to achieve.

N.M.S.

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A FEW NOTES ON THE CONSTRUCTION AND GENERAL USES OF AN OVAL MANÈGE.

By Lieut. A. F. Brooke, R.H.A.

NOTE: *The following article was originally prepared for publication in* 1914. *Owing to the war it has been necessarily withheld up to the present date.*

During the past few years the importance attached to Show Jumping has considerably increased in England, but there is little doubt that we are not yet quite on the same level as our Continental neighbours in the actual training of show jumpers.

Under these circumstances we should not neglect any assistance, however small, towards helping us to hold our own in international competitions.

It is with this object in view that I have written the following brief description of an oval manège, as arrived at after constructing one and using it for the past two years, in the hope that it may perhaps be of some use to those who may not be acquainted with its advantages.

I gained my first knowledge of such a manège from 'Dressage du Cheval d'Obstacle en Liberté,' written by Comte Louis d'Havrincourt, in which he gives most interesting details as to the uses he made of such a manège, constructed on lines copied from the well-known Belgian show rider, G. Van de Poele, whilst in the series of articles by Lieutenant Geoffrey Brooke, 16th Lancers, which were published in the Cavalry Journal during 1912, I gathered further hints as to uses of such a manège.

(1) *General Description.* — The manège consists of a fenced-in enclosure of elliptical shape, traced according to special dimensions.

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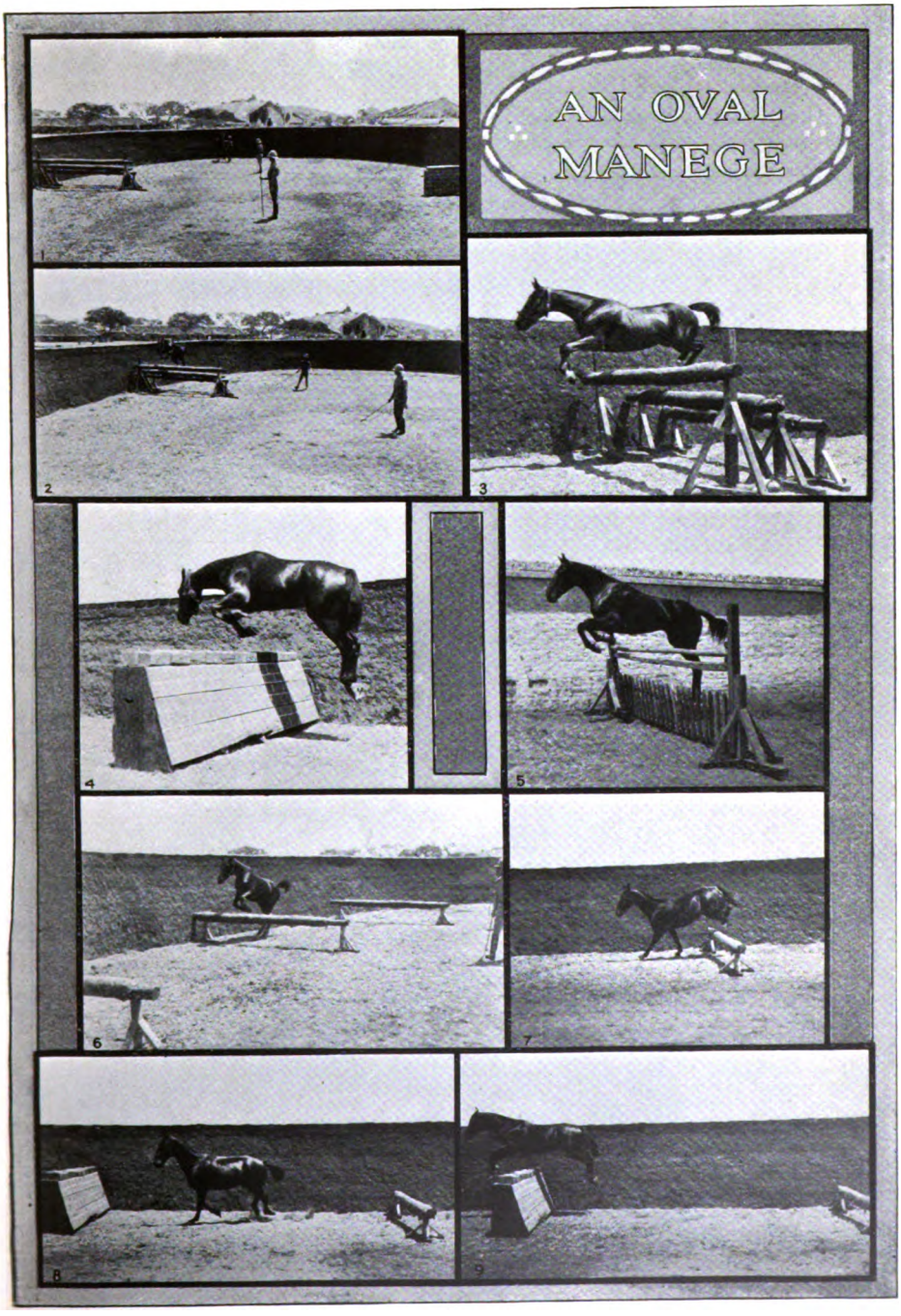

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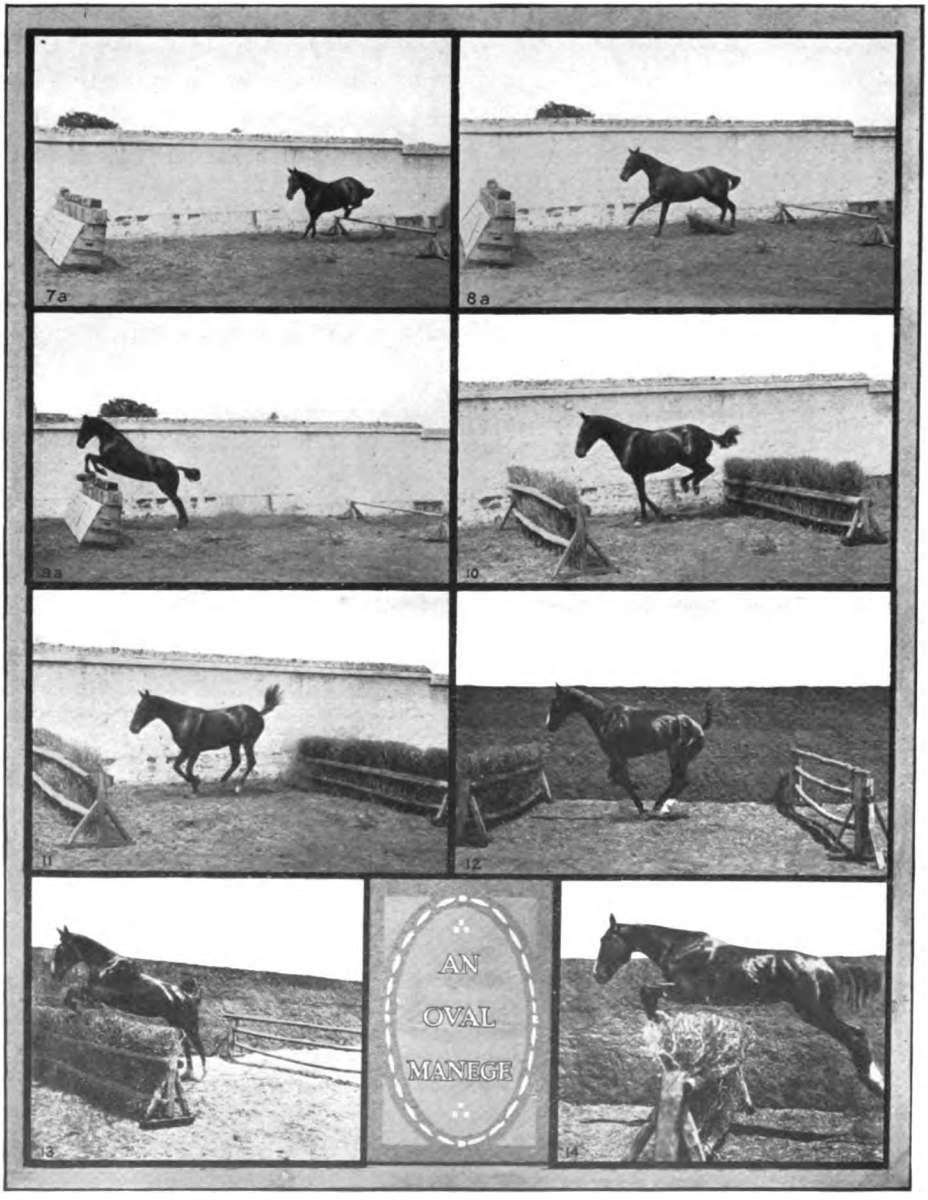

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Both d'Havrincourt and Lieut. G. Brooke in their diagrams seem to favour a low inner wall, running at a uniform distance from the outer wall. But I am inclined to consider this wall unnecessary, provided the preliminary training, without jumps in the manège, is carefully carried out. And there are considerable advantages to be gained by not being hampered by an inner wall.

If the manège be traced out in accordance with the directions given below it will be found that the longer sides of the ellipse are only slightly curved. Therein lies one of the main advantages of the elliptical manège as opposed to a circular one—namely, it is possible to place jumps in such positions that they may be approached in a straight line. The second great advantage obtained by the elliptical shape is derived through the fact that a horse inclined to rush is automatically checked by the two sharp curves at the ends of the ellipse, thus forcing him to collect himself before facing the jump.

Whereàs, on the other hand, the advantage, as compared to a straight free lane, lies in the fact that the horse is continually under the eye and the control of the instructor, and any slight inclination to refuse can at once be checked. And the moving and alteration of jumps are also easier.

Illustration No. 1 shows the general view of the manège taken from the top of the wall at one extremity, showing position of instructors.

(2) *Construction.*—A suitable bit of ground with a slight slope for draining should be selected. Should the slope be of a marked nature, it is advisable to trace the ellipse with its shorter axis running up and down hill; this will obviate having to jump down hill, with the consequent jarring of horses' legs.

The dimensions of the school best suited consist of an ellipse with a longer axis of 45 yards and a shorter axis of 20 yards. This is easiest obtained by planting two iron pegs 40½ yards apart along the required longer axis. A length of 85½ yards of rope should then be taken and knotted at the ends so as to form a large loop. This loop is passed over the two pegs, a pick or pointed instrument is inserted in the slack of the rope; then, by keeping the rope loop taut (in the shape of a triangle with the pick and the two pegs at its corners) an ellipse is traced

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by moving the pick round in the slack of the rope. Diagram A shows the general procedure to be followed.

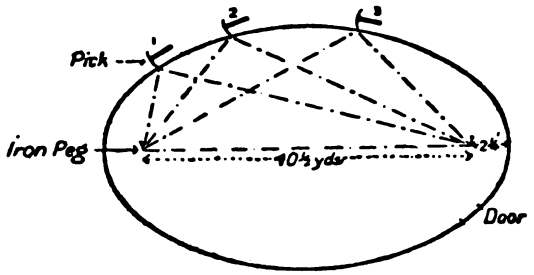

DIAGRAM A.

—.—.—.— Denotes the rope loop on three of its successive positions, as the ellipse is being traced.

The boundary fence must depend on the material available. In India the usual mud wall answers the purpose admirably. It should be 6 feet 6 inches high, and it is advisable to have it tiled on top to prevent it from being washed away during the rains. For a mud wall 6 feet 6 inches high it is advisable to start with a base 3 feet thick. It is essential that the wall should be over 6 feet high, as I have found by experience that as long as a horse can look over he will have a tendency to jump out; besides which, the fact of his looking out is apt to somewhat take his attention from his work, which is an important consideration with a young horse.

At home, where a mud wall would be impossible, I should recommend either a brick wall or a timber fence, and the former for preference; whilst in the case of a timber fence it would be essential to fasten the horizontal spars on the inside of the uprights, to present a smooth surface to a man's leg when riding in the manège. Further, I think that it would be very advisable to put up a canvas screen along the top of the fence, level with the horse's head, to prevent him looking out, and thus concentrate his attention on his work. I have found that outside factors, when visible, such as other horses standing close to the manège, were quite sufficient to distract a young horse's attention.

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The position to select for the door is rather hard to decide on, as horses always have a tendency to stop opposite the door. For this reason it would be badly placed at either end or in the middle of the longer sides of the ellipse. Personally, I have found the door to answer as shown in Diagram A. At any rate, it should be made as little conspicuous as possible.

If a mud or brick wall be used, some sort of hole should be left at the bottom to let the water run off when it rains.

Illustration No. 2 shows the general view of work in the manège.

A thick strip of tan or bedding should be put down along the inside of the wall.

Whether a second or inner wall be constructed is a matter of taste; personally I have found one wall quite sufficient.

In cases where a closed manège is available, and owing to such considerations as the lack of space or funds, it is impossible to construct an oval manège, a good substitute might be arrived at by a system of movable boarding to round off the corners of the usual closed-in riding school.

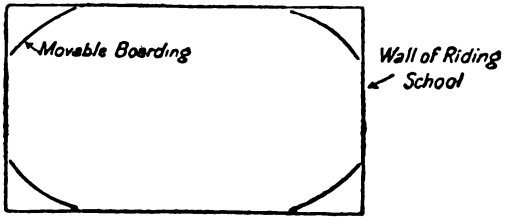

DIAGRAM B.

These boardings could be constructed so as to be adjusted only when required. It might even be found that straight poles, fixed with hooks and sockets acrosst he corners, would answer the purpose.

(3) *Jumps required for the Manege.*—The following is a list of jumps which should be found sufficient for most of the ordinary horse-show jumps, either inside or outside the manège.

(*a*) Brushwood fences: Two of 2 feet 6 inches, two of 3 feet, 6 inches, one of 4 feet 6 inches, and one of 5 feet.

(*b*) Bars and stands for them: Six bars; I found heavy ones of

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4 inches to 6 inches diameter to answer best when bound with straw ropes; if not thus bound they should be lighter to avoid big knees.

Two pairs of graduated uprights, running up to 5 feet 6 inches.

Three pairs of uprights 3 feet high, with a hole at the height of 2 feet 6 inches.

Three pairs of uprights about 1 foot high.

With the above, all necessary combinations for triple bars, oxers, guard rails, posts and rails, and successive bars, 5 or 7 yards apart, can be made. See Illustrations Nos. 3 and 6; No. 3 being the triple bar 4 feet high.

(*c*) One transportable wooden wall, 3 feet high, with sufficient wooden blocks to raise it to 5 feet. Cast railway sleepers sawn into lengths of about 1 foot make good blocks, and should be painted of uniform colour with the wall. See Illustration No. 4.

(*d*) One movable gate: The one given in No. 5 will be found to answer the purpose well, as it can be fixed at three different heights as required; and the top rail can, if necessary, be made rigid by strapping it down.

(*e*) One or two pairs of wings, which should not be used unless necessary.

Illustration No. 4 depicts the movable wall with one layer of blocks, and No. 5 the gate, with top bar fixed at 3 feet 6 inches height.

(4) *Uses of the Oval Manege*:—

(*a*) Training remounts to jump.

(*b*) Training hunters or show jumpers.

(*c*) Training recruits to jump without reins or stirrups.

(5) *Training Remounts to Jump*.—A remount should be first of all thoroughly accustomed to the manège, if possible by using it as a paddock for a couple of days, and turning the remount loose in it, and, if necessary, even feeding it in it.

It should then gradually be made to walk, trot and canter round the manège on either rein, care being taken not to let it cut its corners, turn round, or become the slightest bit wild.

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From the very start, the greatest care should be taken to stop any signs of excitement, a plentiful supply of lucern or carrots should always be ready in the centre of the school and freely given. Any tendency to stop at the door must be guarded against.

The number of days that should be spent without using jumps must necessarily depend on the remount, but it is not advisable to introduce any jumps until the remount is thoroughly used to circling on either rein without cutting the corners.

A bar laid on the ground, or low bush fence, should then be introduced; the remount should be allowed to walk round and examine the fence first of all. It should then be made to circle round the manège over the jump as slowly as possible. If a bar is being used it is advisable to keep it on the ground until thorough confidence has been established. It may then be raised about a foot and the same procedure carried out. When quite proficient it should be taken outside and ridden over the bar on the ground without wings. It is advisable to combine the training outside the manège together with that inside, always keeping those jumps over which the remount is ridden slightly lower than those over which it is jumped free. But I strongly recommend that from the very start when riding over jumps no wings be used, as described later in paragraph 9.

As the training progresses the jumps should be continually varied, the greatest care being taken never to ask a remount to jump anything too big. Jumps should be very gradually raised, as once confidence has been lost the training may have to be started in its initial stages again.

The next paragraph naturally also refers to remounts in the further stages of their training.

(6) *Training Hunters and Show Jumpers.*—Unless originally trained to jump in the manège as a remount, the initial stages should approximate closely to those given in paragraph 5, though the size of the jumps can naturally be increased faster if the horse is known to be a good jumper. Anyhow, no jumping should be started until the horse is thoroughly used to circling on either rein without cutting the corners. A systematic course of schooling should then be started

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over those jumps which may be considered most necessary, combined with the schooling out of doors over jumps a little lower, and for preference without wings.

For horses inclined to get too far under their fences I have found Lieut. G. Brooke's suggestion of a bar one foot high and 7 yards from the fence most useful, provided the horse is used to taking his fences at a steady canter. For horses inclined to go rather faster I think it is advisable to slightly increase the 7 yards, and *vice versa.*

The accompanying series of photographs, Nos. 7, 8, 9, and 7(*a*), 8(*a*), 9(*a*) show clearly the use of such a bar.

Another excellent exercise, recommended by Lieut. G. Brooke, is the placing of three or more bars, from 2 to 2½ feet high, at intervals of 7 yards, occasionally varying the intervals to 5 yards. See Illustration No. 6.

I found that using a series of bars 7 yards apart had an excellent effect in training horses to judge the proper distance to 'stand off' from their fences, especially in the case of those inclined to get too far under. After jumping the first bar they find themselves automatically placed in the correct position to take one more stride before rising to the next fence; that is, provided they have not overjumped the first bar, which they are not likely to do unless it is too high, or that they are going too fast. At the same time, purely as an exercise for the jumping muscles, a series of bars will be found excellent.

It is perhaps not fully realised to what extent the muscles of the loins and back are used by a horse jumping an ordinary 'in and out' of two fences, 5 yards apart. The accompanying photographs, 10, 11, 12, however, give an excellent idea of this. It will be noticed in all of them that when landing after the first fence the horse's fore legs begin to leave the ground while the hind legs are still in the air. On obtaining the first photograph of this position I thought that it might be accidental or a peculiarity of that horse; I therefore took several photographs of different horses, with the same result in each case.

From the above it would appear that when jumping two fences in two successive strides a horse uses the downward momentum of his hind quarters as a leverage to lift his fore legs for the second fence.

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This causes a considerable strain on the back and loins, which is well illustrated by the position of the back in No. 12.

Such exercises are naturally tiring, and trying on a young or unfit horse, and should consequently be made use of under a progressive system for their full value to be appreciated.

One of the chief advantages of free jumping for show horses lies in the fact that considerably more training can be done without fear of feet troubles or sore shins, as might be the case with the extra weight of the rider; though, of course, the difference of balance required for jumping with a weight up must not be neglected, and free jumping can therefore never be looked on as more than an adjunct in the training of show jumpers.

In the case of hunters, the main value of an oval manège lies in the preliminary stages of training, and in schooling over any particular kind of fence which the horse may be bad at.

(7) *Training of Recruits to Jump without Reins or Stirrups.*—Horses used in the manège should be picked; two low fences, one on either side, should be sufficient to start with. I think that in this case it is advisable to have wings to the fences, as it is training of the man, and not the horse, which is the prime factor, and a sudden swerve at the fence would add an unnecessary element of danger to a nervous recruit.

The ride should not consist of more than six men, to be formed up at one end of the school. After crossing their stirrups and dropping their reins, they are made to go once round the school individually. It will be found that most horses will go round quite on their own, and form up with the rest of the ride.

The main advantage lies in the fact that the men are in an enclosed space, and gain great confidence from the knowledge that they cannot be bolted with. They can be got to look upon it as riding a 'merry-go-round' horse over fences, so that the whole of their attention in the preliminary stages of their training can be concentrated on what they themselves are actually doing, instead of puzzling their brains as to what the horse is going to do next.

(8) *Hints as to the Use of the Manege.*—The fewer the people in the manège during schooling the better; three in all should be sufficient —namely, two instructors and one assistant.

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No other horses besides the one being trained should be allowed in the school; whilst those horses waiting outside for their turn should not be visible to the one under instruction.

The positions of the instructors and the assistant when starting schooling should be roughly as shown in Diagram C, and in Illustration No. 1.

The horse should be led in by the assistant, whilst instructor No. 2 closes the door and instructor No. 1 gets a handful of carrots or lucern ready. The horse is taken into the centre, and after being

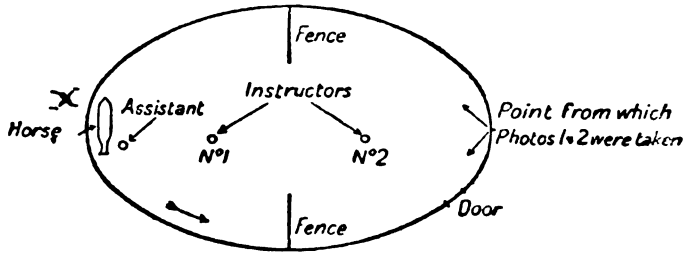

DIAGRAM C.

Position of Instructors and Assistant.

given a mouthful, is taken to have a good look at the fences by the assistant, who then takes him to point X. If jumping in a stable head-collar with eye fringe the latter should be removed.

The horse should be let go at X, but should be encouraged to stand still until given a sign by the voice or whip of instructor No. 1. In the case of a beginner, it may be well for instructor No. 2 to move up close to the first jump and be on the look out for the horse trying to run out.

Instructor No. 1, after starting the horse, should run alongside of it, from 5 to 10 yards from it and level with its fore legs, with his whip held low, and behind the horse. He should be careful not to get ahead of the horse, which would be liable to make the latter stop or turn round, and should carefully watch the horse's eye. It is surprising how accurately one can tell whether a horse intends jumping or running out by watching his eye and head.

After jumping the first fence instructor No. 2 should take the horse round the other end of the school, being careful to keep him against

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the wall, and not to allow him to cut his corners. The procedure at the next jump is similar to the first.

The assistant should throughout remain as motionless as possible; he may be used to stand near a jump if necessary, but should on no account be allowed to wave his arms about or shout.

If proper care be taken from the start it will be found that after two or three lessons no running round with the horse will be required, and that they will go round entirely of their own free will.

When finished with the horse should be stopped at the same point as he started, and not close to the door. He should then be called into the centre of the school for a handful of lucern or carrots. Should any difficulty be met with in stopping the horse, all that is necessary is to move to a point slightly in front of the horse as he is coming round the top of the school, and to hold the whip up. But after a day or two, provided horses are not frightened, they will be found to stop entirely of their own accord when shouted to, and will trot into the centre of the school for their lucern.

The following points should be carefully looked to. Keep the whip as quiet as possible, and for preference with the head and thong on the ground. Make no unnecessary movements, especially just as a horse is about to take off. Carefully avoid ever letting a horse get excited whilst in the school. In the event of a horse running wild when let go, it is best to stand stock still till he has settled down. Avoid shouting, and try to make the horse enjoy his time in the manège. Be careful that there is sufficient litter on the landing side of the fences; few things put a horse off jumping more than a jar on landing.

(9) *Schooling without Wings.*—I do not think that the advantages of schooling without wings are sufficiently appreciated, and I think that part of the success attained by Continental horses is due to the fact that, since in many of their horse shows no wings are allowed, schooling must necessarily be carried out without them.

There is first of all the obvious fact that a horse, schooled from the start in this manner, is far easier to put at any portion of a fence one may select, thus minimising the danger of crossing or jumping on other people, as pointed out by Lieut. G. Brooke in his article.

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Further, I consider that it has another great advantage over the method of schooling with wings. Take, for instance, a horse inclined to run out at his fences, the method only too often seen consists in holding him tight by the head till within the wings, and then cramming him at the fence, with the result that the horse is never within his proper stride. The reason for this is clear; whilst approaching the fence, the idea rooted in his head is how best to avoid the fence, and if he makes any alteration in his stride whilst approaching the fence it will only be with the idea of swerving out of the wings if possible. This is evidently wrong. One's main object should be to make a horse realise when within 15 or 20 yards of the fence that he is bound to go over it; it is too late to make him realise this fact when within the length of the wing of the fence.

I consider that this can best be arrived at by commencing the schooling as a remount over jumps without wings. But to do this satisfactorily two things are essential—first, that the height of the jump be increased only very gradually, starting low; secondly, that whenever a case of running out occurs the horse be pulled up in as short a distance as possible and backed till it faces the jump again, not turned round. If properly stopped and reined back, it is seldom that a horse will run out more than three or four times provided that the height of the fence has not been increased too much at a time.

In cases of horses permanently inclined to run out to one side, it will be found that this tendency can be easily got over by riding them at a slight angle to the fence, as shown below in Diagram D.

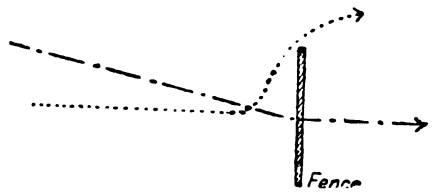

DIAGRAM D.

- - - - - Course followed by a horse running out to the left.
—.—.—.—. Course adopted to correct this fault.

I have also found that in schooling over fences without wings the riding of the men improved considerably.

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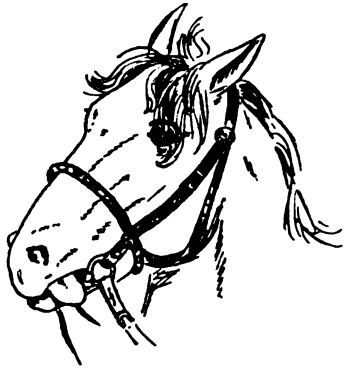
(10) *Confidence.*—Throughout the whole of the training too much care cannot be taken to prevent a horse from losing confidence in himself. The case of a horse which was jumping well suddenly going off, and knocking his fences down, or refusing, may of course be due to some pain on landing or stiffness; but in many cases it is entirely due to loss of confidence, in a similar way in which a man when high jumping may lose the knack of taking off.

In such cases, with a horse, I am sure that the shortest method in the long run is to go back and start again over lower fences until he has thoroughly regained his confidence, and then gradually increase the height, but with more care than before.



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REMINISCENCES OF THE CAPE MOUNTED RIFLES TWENTY YEARS AGO. *

By VERE SHORTT (*late Cape Mounted Riflemen*).

TWENTY years ago South Africa was as Canada is to-day, and Australia was fifty years ago, the land of promise. Since those days many things have changed and South Africa with them, and now the country is respectable and commercial and peaceful; but twenty years ago it was none of these. Without being exactly the Africa of Rider Haggard, it was a country of possibilities, and one where there was a fair chance, if not the certainty, of adventure. Fifty years ago the family scapegrace was shipped off to the 'diggings' of Australia, and very often, after various adventures, joined the Mounted Police, and thirty years after his prototype did exactly the same thing, with the *locale* changed to South Africa. Now, of all the military police forces in that country the famous Cape Mounted Riflemen—now defunct, but redivivus under the name of the 1st South African Mounted Rifles—was perhaps the most celebrated; and in this article the writer proposes to give some impressions of life in its ranks as it appeared to him at that time.

At irregular intervals, recruiting for the Cape Mounted Rifles—or as it was universally called in South Africa, the 'C.M.R.'—took place in England, and at these times the office of the Agent-General in Victoria Street was crowded with would-be recruits. Nearly all the applicants were of much the same age—about twenty to twenty-five—

* Written in 1914.

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and of very much the same social grade. The writer well remembers when attending at Victoria Street how strongly he was reminded of the 'Vet.' or medical examination for entrance to Sandhurst. The men were a little older, but with that exception quite eight out of ten were of exactly the same type as one would see at a higher-grade Civil Service or Army examination. As a matter of fact, many of them had attended one or other of them in their time with depressing results. The others were mostly men who had served in the Army as non-commissioned officers and privates, and wished to continue their military experiences in a new country.

Most of us had received a sort of prospectus or leaflet, setting out the advantages of the corps. The principal ones were—I quote from memory—that: (1) The life was one perpetual picnic (I heard this repeated a few hundred times in after years); (2) the quarters were airy and commodious; (3) after five years of service a man's horse and saddlery became his own property, the rate of pay being 5s. a day, with an increase to 6s. on promotion to first-class private. This document wound up with a statement that the life was unsuitable to 'idle adventurers, clerks, and town-bred men.' Having been shown into a room about twenty at a time, we were ordered to undress and wait our turn to go before the doctor. The room was crowded with men in various stages of undress, staring at each other with true British suspicion of strangers, when a voice lifted itself from the background, 'Ahem! I *do* hope that we have no idle adventurers here!' There was a general laugh, and the ice being broken everyone began to talk at once, until called away to see the doctor. The medical examination was extremely severe, and not more than 50 per cent. of the applicants passed it. The great majority were rejected because of insufficient chest measurement, and went sorrowfully away to practice at a gymnasium with a view to being accepted later on. Those who passed the doctors were given a note to the offices of the Union or Castle Lines (then separate companies), where they were provided with a second-class ticket to Cape Town at the expense of the Cape Government.

One voyage to South Africa or elsewhere is much like another, and I have no intention of inflicting a description of one on my readers.

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On arrival at Cape Town the drafts, consisting of about fifteen recruits each, were met by a non-commissioned officer, and conducted by him to King William's Town, which was at that time the head-quarters of the corps, the journey being a long one, about two days and nights in the train. On arrival at King William's Town, or simply 'King,' as it is called in South Africa, recruits underwent a second medical examination, and that having been passed received their uniform and equipment. This was rather varied, and consisted of, among other things, one rifle, green tunic and breeches, one white helmet and forage cap, one serge tunic and breeches for field service, one canvas helmet for ditto, one pair field boots, one pair jack boots, a waterproof cloak, shirts, &c., and one canvas kitbag, which was supposed to hold all these articles, but which really held about half of them.

It was about this time that recruits were initiated into the beauties of the stopped pay. The Cape Government provided some of these articles free, and also a certain sum towards the purchase of a troop horse, but the rest had to be provided by the trooper himself, and, failing ready cash (which was distressingly rare), a recruit found himself saddled with a debt to the Government of about £40, which he had to liquidate *from his pay* at the rate of £2 per month. Now the pay of a second-class private was 5s. a day, or £7 15s. per month. His messing cost him £3 per month (also stopped from his pay). He was allowed credit at the rate of £1 a month from the canteen, nominally to buy necessities, such as cleaning gear, &c., but which he generally spent on liquid refreshment during the first week, besides which any article of kit lost had to be paid for, so that a very simple sum will show how much the recruit had to draw on his monthly pay-day. As a matter of fact, it was the exception rather than the rule for a 'second-class private in debt' to have even one penny clear at the end of the month, and many used to sign their pay sheets *in debt to the Government.*

To make matters worse it was considered a point of honour for every man to keep a 'boy' or native servant, and on pay-day the precincts of the camp were rendered hideous by plaintive wails of *Ipi mali eam 'mulungu?* (Where's my money, white man?) This was the opportunity of the old soldiers in the camp. Many of the recruits had brought

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out large quantities of clothes, boots, breeches, &c., which they were willing to dispose of at almost any price to satisfy their creditors. Some of the older men must have accumulated enough almost new clothing to stock an emporium for a few pounds. One recruit for some reason known only to himself had brought out a salmon-rod, which, finding himself in financial difficulties, he disposed of to a native driver as a new jointed wagon whip. The native used it once, and ever after entertained a low opinion of the commercial morality of recruits.

Many of the recruits, however, had brought money with them, and the favourite amusement at 'King' was to hire a horse in town and take rides in the surrounding country. A good many of the recruits were very fair horsemen, and came to no harm, but many of the others' sole knowledge of the horse consisted of the fact that he was a noble animal and had four legs, and many of these latter's equestrian promenades came to an abrupt conclusion. One man, who *said* that he had ridden to hounds constantly in England, was returned to camp in an extreme state of dilapidation, after having been ignominiously bucked off by his hireling in the middle of the main street, and another man's mount took exception to a squad of recruits at drill, and, having charged and scattered them, projected his rider through a washhouse window. After these two incidents the hiring of horses by recruits was prohibited, the reason given by the sergeant-major being, 'That if this goes on some of you will be getting killed, and we shall be put to all the trouble of a military funeral!'

After about six weeks' elementary drill at 'Kings' the recruits were drafted off up-country to join their respective squadrons, and about this time the meaning of life in the corps being 'one perpetual picnic' was borne in on us. Some of the squadrons of the C.M.R. were stationed 300 or 400 miles away from King William's Town, none of the recruits had as yet been given their troop horses, and the railway at that time only extended as far as Kei Road, about twenty miles away. The rest of the journey had to be done by ox wagon, which means that the distance covered was not more at most than ten or fifteen miles in twenty-four hours, and the introduction to the picnic part of the life began on the first night, when it became necessary to light fires and

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cook food in the midst of a torrential downpour. Few if any of t recruits had had any experience of this kind of thing, and I fear ma of them went to bed hungry that night. Still, experience teaches, a by the time they had arrived at their destination many of them h become fair cooks, and had acquired the art of making themselv comfortable under somewhat unpromising circumstances.

The wagons usually started about day-break and trekked un about nine o'clock in the morning. Then there was a halt during t heat of the day, and about five o'clock in the afternoon the oxen we 'inspanned,' and the trek recommenced and lasted until nine or t at night. If the roads were good the average pace of the oxen w about two or three miles an hour, but after heavy rain the roads, rather tracks across the veldt, became simply morasses, and it migl take a couple of hours to do half a mile. When the wagons started dawn they were piled with boxes, kitbags, &c., and on top of these solid layer of men in all sorts of positions, wedged in among t baggage and trying to finish their interrupted sleep. After breakfa most of the men would look out some shady spot, under a wagon elsewhere, and indulge in further repose, knowing that after three four o'clock next morning any further rest was largely dependant o being able to secure a reasonably comfortable corner on a wagon.

At Umtata, in Tembuland, we shed a large quantity of recruit who were absorbed into the squadron stationed there, and the rest the draft proceeded on its way up-country to the stations of Moun Frere and Mount Ayliff—both on the Pondo border—and to Kokstad the capital of East Griqualand. Soon after the draft had left Umtat many men found that their kitbags were much lighter than when the had arrived there. Owing to the daily incidents of life many me stationed at Umtata were short of such articles of equipment as boots tunics, &c., and saw no reason whatever why a lot of recruits shoul be allowed to go to other squadrons with a large supply of such desirabl articles. They reasoned that if a recruit was really fitted for life in the C.M.R. that he would have no difficulty in making up any deficiency in his equipment from somebody else, and that if he could not do so, well, he deserved to pay for new things. This being the case, they had

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THE CAPE MOUNTED RIFLES.

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had no hesitation about helping themselves, and had done so liberally. After this it was just as well to use one's kitbag for a seat in the daytime and a pillow at night.

About half of the rest of the draft were left at Mount Frere, and the remainder were sent on to G Squadron, one troop of which was stationed at Mount Ayliff and the other at Kokstad. However, on arrival at the Umtemvuba River, about ten miles from Mount Frere, we found the river flooded, and there being no bridge, sat down for what proved a somewhat protracted wait. As a matter of fact it was nearly five weeks before we got across. The river would sink until it was almost fordable, then there would be a thunderstorm in the mountains, and in half an hour the river would be a roaring yellow flood from bank to bank. However, after more than a month's delay, during a longer interval than usual between two storms, the wagons managed to get across.

The writer was told off to the draft which remained at Mount Ayliff, and here the recruits were given horses, and underwent recruits' drill and riding school. These came to an abrupt end, however. All the way up-country we had been regaled with stories of 'something up' in Pondoland, and now the 'something' came to a head. Pondoland, it must be stated, was at that time (1894) an Independent Native State lying between Natal and East Griqualand, and had been for many years a thorn in the side of both the Natal and Cape Governments. The Pondos spent most of their time in sanguinary civil wars, and when they were not fighting, were doing each other to death after the approved native manner on accusations of 'tagati' or witchcraft, or raiding over the border for cattle. The Cape Government made up its mind to annex the country, and one day in March, 1894, orders came to the troop at Mount Ayliff to proceed to a spot on the Pondo border, there to form part of a column. The writer did not take part in that expedition, being sent on to Kokstad to finish his recruits' drill, but there was not much lost. The country was annexed without a shot being fired, and when the recruits were sent to their squadrons at the new camps in Pondoland the country was absolutely tranquil.

At this time the men who formed the rank and file of the C.M.R. were a strangely mixed assortment. There were men who had held

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commissions in the British Army, university men, Swedes and Germans who had worn the grey capote and red trousers of the Foreign Legion and the blue of Uncle Sam's troops. There were boys not a year from the public schools, and battered reprobates who had served in every native war in South Africa for the last twenty years, and who cared little where they slept or what they ate, so long as they could get a sufficient supply of 'dop,' or Cape brandy. Among all these mixed elements one naturally found some strange types. There was Sergeant-Major C., ex-railway porter and present autocrat, who ruled his squadron with a heavy hand—a sincerely religious man—with what can only be described as a gift of absolutely horrifying language. He it was who dropped on his knees in the middle of a riding school full of recruits and prayed for 'These —— to be —— well made sit their horses properly!' There was P., the German sergeant, whose weakness was pork, and whose sole utterance during a long night of rain and tempest when his tent had been blown down was 'Ach, I *do* like *bork*.' There was B., who used to suffer from periodical fits of depression, and who, announcing his intention of committing suicide, would distribute all his possessions as souvenirs among his friends, and then having thought better of it, would spend the next week or so trying to reclaim necessary articles of equipment. There was G., the trumpeter, an ex-Barnado boy, and a most finished young demon, who would relate to innocent Colonials lurid stories of his adventures among dukes and duchesses in London. The types to be met with in a regiment like the C.M.R. at that time were, however, too varied than to be barely touched on here. It must be remembered that in the 'nineties South Africa attracted men from all over the world, and that many of them finding the country not all that they had expected had joined one or other of the Colonial Forces.

The life in Pondoland was not an easy one. There were permanent camps, stables, and fortifications to be built, and the Colonial Government, being averse to spending money rashly, determined that the men should build their own camps, in addition to their usual military work. This meant from eight to ten hours' hard pick-and-shovel work a day, in addition to all guards, fatigues, drills, &c. At Flagstaff, which was

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the largest camp in Eastern Pondoland, the site for the temporary camp had been selected in a small valley. When the rainy season came on it was discovered that during the rains, owing to the ground being honeycombed with springs, that this valley became a mixture of swamp and lake, and absolutely uninhabitable. Notwithstanding this the squadron garrisoning the place was kept on the spot for over a month of the worst of the rains. Men would go to sleep on the comparatively dry floor of their tents at night, and wake in the morning lying in three inches of mud and water. The uniforms became rotten with the damp, and hung on to the wearers in rags, in some cases beyond the limits of decency. The writer has seen an entire guard parade without a boot among the men who composed it. Even if they had possessed them it would have been next door to impossible to have kept them on the feet in the sticky mud of which the camp consisted. Then came cases of boils and abscesses, and then other cases of dysentery and rheumatic fever, and at last the site of the camp was changed. Also new uniforms were issued to the men at their own expense. I know that these statements sound improbable, but if any of my readers have belonged to the C.M.R. who were stationed at Flagstaff, in Eastern Pondoland, from 1894-95, they will know that I have rather under- than over-stated the conditions which prevailed at that time.

However, after this things became very much better. We were served out with new double tents with boarded floors in place of the old, rotten, single ones, the new permanent camps were being completed rapidly, and altogether life in the C.M.R. began to return, more or less, to its normal aspect. There would be months of dullness and routine, and then there would be a war scare, which would bring troops hot foot to Pondoland from all over the Cape Colony. Most of these scares in practice proved to be nothing more than reluctance on the part of the Pondo tribes to pay their hut tax, which reluctance they had emphasised by hurling an assegai at the semi-sacred person of a native policeman, but some were more serious. On one occasion the paramount Chief, Sigcau, came into Flagstaff for an 'Indaba,' or conference with the chief magistrate, and during the conversation the latter made some remark displeasing to the potentate, who signified his displeasure by

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marching his retinue of well-armed and mounted natives twice round the camp, at a distance of a hundred yards. After they had withdrawn there was tremendous activity, and preparations for a siege (we were turned out on false alarms three times that night), but if the Pondos had chosen to attack at the time nothing could have saved the camp, as most of the men were at the 'Indaba,' and those who were in camp were almost all asleep.

On another occasion a small chief, named Totwana, objected to paying hut tax, and turned out his tribe to resist its collection. Again, there was very nearly a disaster. The Government Forces consisted of a resident magistrate, one officer, and twenty-five troopers of the C.M.R., while the natives numbered some hundreds and were in a high state of excitement. Two or three men were roughly handled and four troopers, who had been detached as a picket, only rejoined the main body after forcing their way through a crowd of natives by a free use of their sabres. This incident was eventually closed by the mobilisation of a flying column of some fifteen hundred men and the arrest and imprisonment of Totwana.

These little expeditions, which often lasted for a couple of months at a stretch, provided all the discomforts of warfare with very little of its excitement, and absolutely no honour or glory, and also (which from the men's point of view was even worse) were responsible for a huge bill for new uniforms, to replace those which were soiled and worn out. I am bound to admit, however, after two years of this sort of thing, that the Cape Government made a cash grant for purchase of equipment to the men who had taken part in those expeditions.

As Pondoland became more settled, the troops who had occupied it since the annexation were drafted off to other stations, and their places taken by other squadrons, brought from further down-country, the writer, with about thirty other men from Flagstaff, being sent back to Kokstad. Kokstad is the capital of East Griqualand, and to its inhabitants and to those of the surrounding country, was a Metropolis, but to English ideas would be a village, consisting of some two hundred white and about eight hundred coloured inhabitants. However, after Pondoland it was civilisation of a sort, and the men who had come from

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Pondoland proceeded to make the most of it, with the result that for the first month or two, punishments were frequent and heavy.. The Commandant at Kokstad was Captain ——, now Colonel D———, but the real autocrat of the station was the aforesaid Sergeant-Major C——. The Sergeant-Major had a reputation as a martinet, which reached from Kokstad to King William's Town, and he lived up to it. It must be understood, however, that the men whom he had to deal with and keep in order were not exactly members of a Y.M.C.A., and with a less heavy hand on them would probably have caused a considerable amount of trouble in the town. Personally, the writer always found Sergeant-Major C—— strictly fair, although severe, and has none but the kindest feelings left towards him. One man, and one only ever scored off him. It must be explained that the Sergeant-Major was a poor horseman (partly owing to an old wound), and one day on early-morning parade was thrown from his horse. Two days afterwards, during the monthly musketry parade, he was explaining the difference between a 'full' and a 'fine' sight, and turning to a trooper whom he suspected of not paying attention, asked suddenly, 'Now A., what would *you* call a fine sight?' Without an instant's hesitation the trooper answered, 'Well, Sergeant-Major, the finest sight *I* ever saw was when your horse put you down the other morning on parade!' A's life was not a happy one at Kokstad after this piece of repartee, and he soon exchanged to another station.

Life in Kokstad in all the essentials was very much the same as the ordinary routine of any Cavalry regiment, with its round of parades, guards, and fatigues. The only break in the monotony was the system of monthly patrols round the neighbouring country to collect any complaints from farmers as to stolen stock, &c. These patrols were quite pleasant affairs, if one was lucky enough to be sent through a district inhabited by English farmers, but very much the reverse if it was necessary to patrol a Dutch district. At this time (1896) the ill-starred Jameson raid had just come to its inglorious conclusion, and the storm which was to break three years after in the shape of the Boer war was beginning to gather. In a Dutch district curt words and black looks were the rule, and with the younger Dutch farmers great

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self-control was necessary on the part of the C.M.R. to avoid open breaches of the peace.

Then came the rinderpest, and with it renewed native unrest. To check the progress of the disease it was absolutely necessary to destroy not only any cattle which showed symptoms of the disease, but any which had been in contact with them. Cattle constitute a native's wealth, and they saw in the wholesale destruction of their herds a deep laid plot on the part of the white man to first reduce them to poverty, and then force them to work—a proceeding which they abhorred.

Two chiefs on the western border, by name Luka Jantje and Galishwe, were the first to show any symptoms of disaffection, and the first outbreak of hostilities took place between a reconnoitring party of the C.M.R., under Captain W——, and some of Galishwe's men. The C.M.R. (about thirty men) having penetrated into a kloof, were surrounded by an immensely superior body of natives, and after a four-hours' fight, were compelled to retreat, having lost an officer, Lieut. C——, and a trooper, Private V——. Private V——, who had been holding the horses of his section of fours, had become rather tired of inactivity, and had shouted to a friend in the firing line to 'Relieve him for a minute, and let him have a slap at the beggars.' He fired once, and then dropped with a bullet through his head. Immediately afterwards Lieutenant C——, who had remained mounted, and had ridden up, received a bullet through the abdomen, dying soon after. Being much outnumbered, and in a most unfavourable position, the patrol then commenced a retreat, being much harassed by the enemy during its progress. In this engagement, it was only the fact of reinforcements with a machine-gun coming up which prevented a disaster. Private V——'s body was found next day horribly mutilated.

The country of the Langberg, where the campaign took place, was admirably suited for defence, and the campaign generally was a slow and uninteresting one. The C.M.R. lost three more men in one assault —one of them, Private M——, being hit in no less than thirteen places. These three men were all buried next day, but during the night the bodies were dug up by the natives, and, as in the case of Private V——, mutilated for the purpose of making 'muti,' or war medicine.

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The Langberg campaign ended with the storming of Gamasiep and the death of Luka Jantje by the hand of Dr. Temple-Smyth, of the Kaffrarian Rifles (an old school-fellow of the writer's). Then came an incident which created a good deal of excitement at the time. After the storming of Gamasiep, an officer of a Cape Town regiment thought he would like a souvenir of the campaign, and hearing that Luka Jantje had been killed, commissioned one of his men to procure the defunct chief's head. The man in question had no implements meant for decapitation, but being resourceful removed the head with a pocket-knife and a chopper, and the officer got his ghastly souvenir. However, the affair came to the ears of the authorities, and the officer in question was deprived of his commission.

After the conclusion of the Langberg campaign the squadrons of the C.M.R. which had been engaged in it were sent back to their respective stations and took up the ordinary routine of life. As the writer had now done over four years of service in the corps, and as 'discharges were open' (*i.e.* discharge by purchase was permitted) he paid the specified sum and severed his connection with the C.M.R.

The life had been a rough one from the point of view of material comfort, but in other ways had been on the whole a very happy one.

The C.M.R. was a corps which made men—sometimes out of very unpromising material—and the writer will always look back with pride and pleasure to his connection with it.

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THE ATTACK ON THE FIRST CAVALRY BRIGADE AT NERY, SEPTEMBER 1st, 1914.

By BRIGADIER-GENERAL T. T. PITMAN, C.B.

A VERY full and detailed account of this action was given by Major A. F. Becke, late R.F.A., in the Journal of the Royal United Service Institution for May, 1919. The study was undertaken, so the author stated, in hopes that it would produce further information. It is therefore the intention of the writer of the ensuing account to relate briefly the story already described and give in detail a few facts which have not previously been published. Finally to bring out the Cavalry lessons which may be learned from the action.

The stand made by the Second British Corps under General Sir H. Smith Dorrien at Le Cateau on August 26th allowed the much exhausted troops to carry on the retirement, for the next few days, without much pressure from the enemy.

By the 30th the Germans were again closing up, and the British Cavalry (1st, 2nd, and 4th Brigades), who were acting as rear guard and left flank guard to General Smith Dorrien's army, were again in touch with the German Cavalry advanced guards.

On the morning of the 31st, the 1st Cavalry Brigade moved out from Choisy au Bac near Compiegne, and the Cavalry Division, less General Gough's 3rd Brigade, were formed up in a hollow about two miles north-west of Venette, their orders being to guard the crossings over the River Oise till 12 noon, at which hour the bridges were to be blown up, and at the same time to protect the left flank of the army.

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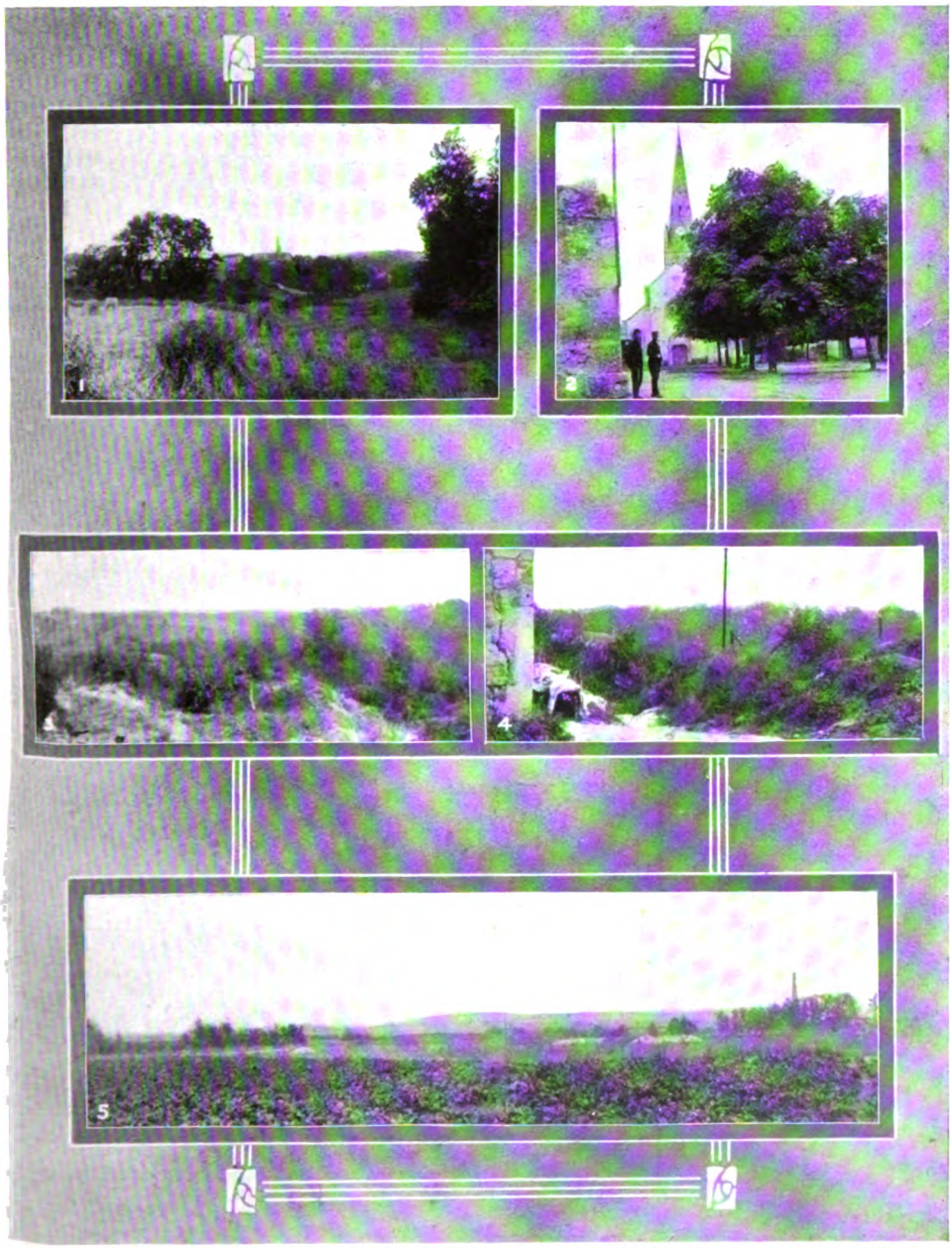

1.—Nery as seen from German gun position. 2.—Nery Church.
3.—View looking across Ravine from XIth Hussars position. 4.—Wooded Slope as seen from Point E on sketch.
5.—German gun position as seen from L Battery.

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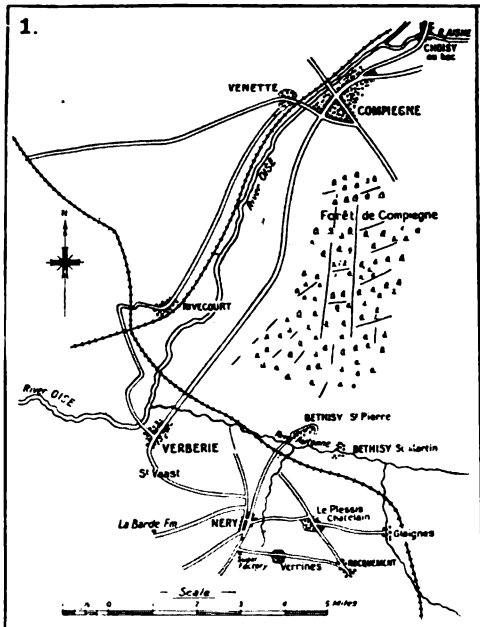

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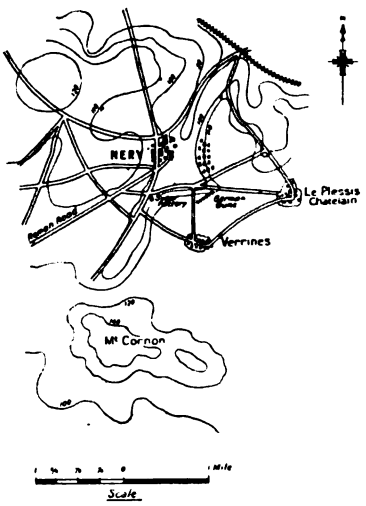

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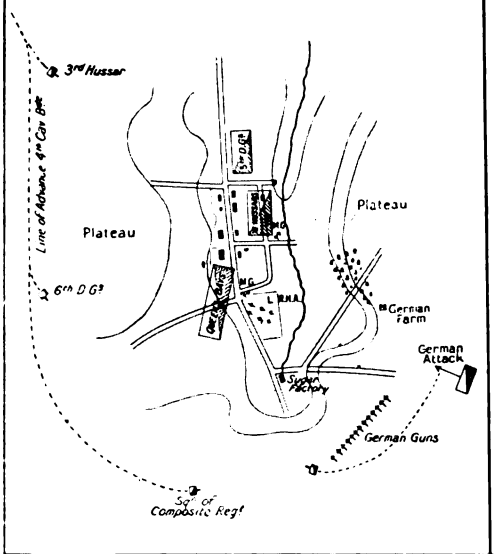

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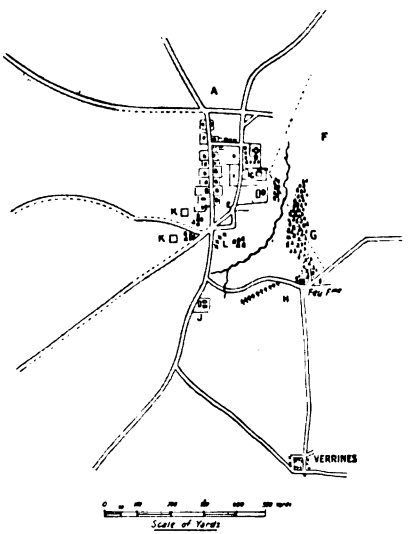
— NERY —

Where the First Cavalry Brigade were attacked in billets on 1st September, 1914



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Information had been received of the approach of a large force of German Cavalry, and the Division was kept concentrated in hopes of shock tactics. The Germans, however, thought better of it and failed to come on, so about 2 o'clock the Division retired south.

The French Cavalry had been operating further to the west and General Smith Dorrien's Infantry were retiring in two columns through the forest of Compiegne, finding their own rear guard, with the idea of billeting for the night on the line of the River Autonne.

The original intention was for the whole of the Cavalry to billet in the area formed by the angle of the River Oise west of Rivecourt.

Later in the afternoon the billeting orders were modified owing to the movements of the French Cavalry having come in closer. The 2nd Brigade, under General De Lisle, remained in the area as mentioned above. The 4th Brigade, under General Bingham, crossed the River Oise and billeted in the southern outskirts of Verberie, while the 1st Brigade, under General Briggs, finding no available billets in the area allotted to the Cavalry, passed behind the Infantry, and came into Divisional reserve at Nery.

About 6 p.m., after a very long day, a good deal of which had, however, been spent in waiting about west of Compiegne, the 1st Brigade reached Nery. The 11th Hussars being advanced guard, formed the outposts round the village to cover the Brigade whilst moving into billets, until the regular posts for the night got into position.

Captain Osborne, who as Staff Captain had gone on ahead to arrange billets, divided the village roughly into three sectors, the 11th Hussars on the east side, the Bays and 'L'Battery on the south and the 5th Dragoon Guards at the north end. The 11th Hussars soon got tucked away into two big farms and some outlying buildings, the other units, however, on account of the limited accommodation, picketed their horses in orchards and fields on the outskirts of their respective sectors. The battery, being at the extreme edge of the village, and therefore well to the rear, moved right out into the open in order to lay down good horse lines.

The system of night outposts in the brigade was that each unit was responsible for its own immediate front, intermediate posts being fixed by mutual arrangement between C.O.'s.

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The First of September.

At 4.15 a.m. the 11th Hussars sent out a patrol under Lieut. Tailby, with instructions to reconnoitre the high ground to the east and south-east of the village. Orders had been received overnight for the units of the brigade to be saddled up and ready to march at dawn.

Before proceeding with the narrative, let us follow Lieut. Tailby on patrol. The following account of his route is given in his own words:

At dawn on the morning of September 1st I started out with my patrol, which consisted of a corporal and five men. It was the first patrol I had been sent out on, so I had taken care the night before to select the best men I had in the troop. It consisted of Corporal Parker, one of the pluckiest and most enterprising corporals in 'B' Squadron, and Privates Minton, Dew, Honeybone, Bowler and McCabe.

The orders I was given by my squadron leader, Captain Halliday, were to reconnoitre the high ground to the east and south-east of the village, to see if I could observe any hostile movement to the north, and to get back as quickly as possible, as units were expected to march soon after dawn. My squadron leader also added that I should probably run into some French piquets who were reported to be in the neighbourhood.

There was a thick fog and we could barely see for a hundred yards. I took the quickest route out of the village towards the plateau, and leaving the main road, struck off in a north-easterly direction down a track in the direction of the ridge, crossed the little brook and almost immediately found the steep slopes of the plateau facing me. It was too steep to ride straight up and I found it necessary to take a zig-zag course, along a sheep run, to get up. When on the top I found the fog as dense as ever and decided to look round the edge of the plateau, going to the south end first and then by the edge on to the north and eastern sides. In this way I looked right round the plateau without seeing or hearing anything and had almost come to the spot where I had climbed up, when, through a slight lifting in the fog, I perceived, at about 150 yards distance to the east, a column of Cavalry. By the appearance of their long cloaks and spiked helmets, I knew they could be none other than the much-heard-of Uhlans. They did not see us, however, for they were dismounted, in sections, and appeared to have lost their bearings. They were gazing across the country to the east. They must have just climbed the eastern slope of the plateau, and the point at which they stood could not have been much more than a mile, as the crow flies, from Nery. At this moment one of my advanced scouts got off his horse and fired at one of the enemy's advanced point (he told me afterwards he had not seen the main body). That settled it, an order was given and I saw the Uhlans mounting. I shouted out, 'Files about. Gallop.' Now unfortunately I could not get back into the same track that I had come up by, as the head of the German column, now their left flank as they charged towards me, would have cut me off, so I had to gallop towards the edge of the plateau in a north-easterly direction. As luck would have it I just managed to

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strike off another cart track off the plateau, and gave the order to gallop down it, when suddenly my horse put his foot in a hole, and came down with me at full gallop. I tried to kick him up, but he refused to move, and as by this time the Uhlans could not have been less than fifty yards behind, I shouted to Corporal Parker to take the patrol on and report at once, whilst I plunged into the thicket, which luckily lined the edge of the plateau at this point, expecting at any moment to hear the Uhlans dismount and come after me. Much to my surprise, however, on looking back through the trees, I saw them wheeling round and retiring whence they came. The next thing I saw was Corporal Parker coming up the track and leading my horse, which had apparently got up and followed the patrol down the road. We galloped down the hill, at the bottom of which was an estaminet, outside which was a German cloak and a rifle. A woman said that three Germans had just run out of her house. No doubt they heard us gallop down the hill and went off in a hurry. Enquiring of the woman the direction of the Nery-Bethisy main road, I gave the order to pick up the cloak and galloped on. Before long I struck the main Nery-Bethisy road, close to the level crossing over the railway, and turning to the left, went on in the direction of Nery, which we soon reached.

I met no one on entering the village, and sent Corporal Parker to warn the 5th Dragoon Guards, who were at our end of the village, while I rode on towards my squadron, and to report to Regimental Headquarters. Colonel Pitman came out to hear my report, and within an incredibly short space of time, the first shot had been fired.

At 4 a.m., the Brigade stood to arms, and as dawn broke the order came, that as the move was postponed, units could off saddle. The patrols sent out by the Bays and 5th Dragoon Guards returned soon after dawn, reporting all clear on their respective fronts. As will be seen from the accompanying sketch, the village of Nery is situated on a gentle slope on the western side of a small ravine running down to the River Autonne. The stream at the bottom of the ravine at this season of the year was practically dry. The actual site of the village is commanded by the plateau on the eastern side of the ravine and the slopes of the ravine on that side are also considerably steeper.

On the morning of the 1st there was a thick fog for the first hour and a-half, and the eastern side of the ravine was hardly visible from the village.

About 5.30 Lieut. Tailby returned in a hurry, as described above.

At first it was thought that he must have mistaken them, and that they were in reality French Cavalry, whom we had heard so much about, but whom some of us so far had not set eyes on since the commencement. Lieut. Tailby had, however, brought a German cloak with him which

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soon settled the question. There was not a moment to lose. Major Anderson ran down to the 11th Hussars to get the men into position, while Colonel Pitman went to the Brigade Headquarters to give warning.

Hardly had the situation been explained to General Briggs when the ball opened. A shell landed in the middle of the Bays' horses, the first of many hundreds that were to burst in the next few minutes.

It was not possible, on account of the fog, to make out more than the direction from which they were coming. As it turned out later, there were three German batteries, of four guns each, in line at a distance of only 400 yards from where 'L' Battery were bivouacked in the open.*

The sudden burst of shell and machine gun fire that plastered the bivouacs of 'L' Battery, the Bays, and 5th Dragoon Guards might have settled the day for any but the best of troops. Many horses stampeded, others were killed where they stood. The guns of 'L' Battery were in column of sections, so that only the two guns nearest to the point of attack could be brought into action. These were quickly at work. Men and officers combined to serve them. Captain Bradbury had both legs taken off by a shell but propped himself up and continued to direct the fire. Lieut. Campbell was killed beside him, while Lieuts. Gifford and Mundy both fell wounded. Sergt.-Major Dorrel continued to serve the last gun, and it was not till the last round in the battery limbers had been expended that this gun ceased to fire.

The 11th Hussars were lucky in the position of their billets. All the shell and machine gun fire, owing to the lie of the ground, passed over their heads, and their casualties were very small in consequence.

General Briggs made his plan with great rapidity. Ordering 'A' Squadron of the 11th Hussars into brigade reserve, he sent off the 5th Dragoon Guards at the commencement of the action to make a turning movement. A large number of their horses were stampeded and were collected later by the 3rd Hussars, but Colonel Ansell took out with him two fairly strong squadrons. The first squadron was put in as a holding force just north of the village, in prolongation of the line held by the 11th Hussars. The second squadron crossed the ravine and worked up to the end of the spur, where they came in close contact with the enemy. It

* This distance has since been measured.

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was here that Colonel Ansell was killed. Proceeding further round, as shown in sketch, they got into the led horses of the Germans.

The 11th Hussars had two squadrons ('B' and 'C') holding the eastern side of the village, while 'A' Squadron were sent to General Briggs, who utilised them to form a barricade at southern end of the village, and to reinforce the Bays in the vicinity of 'L' Battery. The Bays, a large number of whose horses were killed or stampeded at the outset, were employed during the action loopholing the walls on the western side, while Major Ing's squadron did excellent work along the road leading towards the sugar factory. One troop, under Lieut. de Crespigny, reached a position east of the factory, almost on the flank of the German guns, and after both its officers had been wounded (Lieut. de Crespigny mortally) Sergt.-Major Fraser continued to keep the Germans in check. The Germans captured the sugar factory, but were prevented from crossing the main road. The machine guns of the Bays, under Lieut. Lamb, and those of the 11th Hussars, under Lieut. Kavanagh, brought an effective cross fire to bear on the German batteries.

The 4th Cavalry Brigade at Verberie and the Divisional Commander, General Allenby, at St. Vaast, receiving a message from General Briggs, turned out and moved towards Nery. On account of the thick fog, it was impossible to appreciate more of the situation than the fact that the 1st Brigade were being very severely attacked in the direction of Nery. Pivoting on the 3rd Hussars, the 6th Dragoon Guards dismounted about a mile east of La Barde Farm, while a squadron of the Composite regiment of Household Cavalry worked further round towards the sugar factory, the leading troop, under Lieut. Heath, charging right up to the German guns. Lieut. Heath was killed.

The action had been in progress for more than an hour, when the 4th Cavalry Brigade arrived, and the shells from 'I' Battery guns, seen bursting on the plateau from which the Germans were now retiring was a pleasing sight to the defenders of Nery, as also the arrival of the Infantry, the Middlesex Regiment leading, which now commenced in long lines from the north. They passed through the village, and as they did so 'C' Squadron of the 11th Hussars, under Major Lockett, galloped

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out to take up the pursuit. The following account of the action of this squadron, as sent in by them, brings out an important Cavalry lesson, namely the value of the mobile reserve.

ACTION OF 'C' SQUADRON 11TH HUSSARS AT NERY, AFTER 7 A.M.

'C' Squadron.		*List of Officers.*
Breakfast ..	3.30 a.m.	Major J. Lockett
Stood to ..	4.30 a.m.	Captain M. L. Lakin.
Off Saddled ..	5. 0 a.m.	(1) Lieut. A. R. Curtis.
Battle started	5.30 a.m. (approx.)	(2) Lieut. W. O. Bell-Irving.
		(3) Lieut. C. W. M. Norrie.
		(4) Lieut. Hon. S. G. Pelham.

On the opening of heavy machine-gun fire, about 5.30 a.m., September 1, 'C' Squadron 11th Hussars, together with the rest of the regiment, stood to, saddled up and took up their dismounted defensive positions in the vicinity of their billets.

'C' Squadron were disposed near the Large Farm in Nery, just south of the church, but this account deals only with the mounted section of 'C' Squadron towards the close of the battle.

About 7.40 a.m., Major Lockett received orders from Colonel Pitman, commanding 11th Hussars, that 'C' Squadron was to cross the ravine, follow up the enemy, who appeared to be retiring on account of our heavy machine-gun fire, and the accurate shelling of 'I' Battery, R.H.A.

Lockett had previously sent a dismounted patrol, early in the battle, to reconnoitre the ground across the ravine east of Nery, to facilitate mounted action in that direction if called upon.

No. 3 Troop (Norrie) was the leading troop, 'C' Squadron, and made good the ground on the east side of the ravine, while the remainder of the squadron followed. The squadron moved across the ravine, dismounted in half sections owing to its steepness and the difficult going.

The squadron leader moved forward with the leading troop.

An N.C.O.'s patrol from No. 3 Troop captured four Germans near the small wood (400 yards north of German guns) who showed but little signs of resistance.

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The squadron quickly negotiating the ravine pushed forward rapidly, each troop moving off as it arrived. Scattered bodies of the enemy, both mounted and on foot, could be distinguished retiring in an easterly direction.

Lockett ordered Norrie's Troop to gallop the enemy guns and capture them, while Bell-Irving's troop dismounted and opened covering fire on some of the enemy retiring eastwards.

By making good use of the ground, No. 3 Troop charged the enemy guns from the direction of the farm—about 350 yards across the open.

With drawn swords and a rousing cheer, they galloped right through the German guns, capturing the remnants of their shell-shaken personnel —some twenty in number—who put up their hands and shouted 'Kamerad' before the troop was on top of them.

The troop wheeled about and captured a further few prisoners who had evaded the charge.

After the capture of the guns, a section of Infantry (six men), Middlesex Regiment, under a corporal, appeared from the edge of the ravine explaining they were an advance patrol of their regiment, and had been sniping the German gunners from a distance of 150 yards.

In the meanwhile, Lockett had moved off with the remainder of his squadron, and ordered the pursuit of the enemy to be continued vigorously towards Le Plessis Chatelain, ordering No. 3 Troop to keep out on his right flank.

The German prisoners captured and the eight guns were handed over to the Infantry, while the squadron moved forward, scouring the intervening country for prisoners, who were lying low in roots and behind corn stooks.

In this way some twenty further prisoners were captured, half of whom were wounded.

Norrie's Troop, after leaving the guns, moved forward on the right flank of 'C' Squadron, with a patrol pushed out towards Verrines.

Three or four squadrons of the enemy could be seen at a distance of 1,000 yards, slowly manœuvring between Rocquemont and Claignes, showing no inclination to return towards Nery. Le Plessis Chatelain was seen to be occupied and German transport could be seen in it.

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Verrines, except for a few German wounded, appeared to be void of enemy.

By this time, nearly half-an-hour after the capture of the guns, three companies of Infantry had arrived in extended order, about 400 yards east of farm south of Nery.

Lockett, with a quick grasp of the situation, arranged with the Infantry on the spot to co-operate in the capture of Le Plessis Chatelain.

The Infantry took up a covering position on which 'C' Squadron could have fallen back, if counter attacked by superior numbers.

Lockett ordered Pelham's troop to gallop the south end of Le Plessis Chatelain, cutting off the enemy's retreat, and Curtis's troop to come in from the north-east end, keeping the remainder of the squadron in hand with which to enter the village frontally.

In spite of a certain amount of wild firing by the enemy, this manœuvre was completely successful and resulted in the capture of the village, with many prisoners and no casualties to ourselves.

Lockett then rallied his squadron round the village and pushed out patrols in the direction of Claignes and Rocquemont, a wooded neighbourhood where the enemy was visible in strength.

Some seventy prisoners, belonging to six different German Cavalry regiments, were captured in the village, including some Death's Head Hussars. Colonel Pitman had arrived on the scene prior to the village being captured.

Amongst the prisoners taken were two doctors, with their ambulances and a number of wounded.

The following is an incident worth recording: One of the German doctors was relieved of his field glasses and also of his nice-looking grey charger; he protested violently that this was against 'the rules of war' and produced a book in German containing extracts from 'the Geneva Convention.' He explained in French that his glasses had been given to him by a lady friend in Berlin, and that he had bought his grey charger privately: that, therefore, under 'the Geneva Convention,' he was entitled to retain his own private property and that it was most inhuman of the 11th Hussars to have removed them!

Each doctor carried two loaded revolvers and each ambulance

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contained two large boxes of ammunition—the Hun doctor could not find a paragraph in the Geneva Convention to explain this!

A few minutes after the capture of Le Plessis Chatelain the Infantry were ordered to move off west and left the scene of operations.

Colonel Pitman had orders from General Briggs that the pursuit was not to be carried on far, as the situation did not admit of the other squadrons of the regiment being sent in support.

The majority of the prisoners captured by 'C' Squadron 11th Hussars were then handed over to the Infantry and the squadron was ordered to rejoin the regiment, which had moved west from Nery, 'C' Squadron returning back *via* the scene of the morning's fight, and sending a patrol into Verrines *en route*.

Curtis's troop was left behind to assist our gunners in removing the German guns at Nery; four of these were removed and the remainder were put out of action.

TOTAL CAPTURES BY THE SQUADRON.

Eight German field guns.
Two machine guns.
110 prisoners (approximately).
Fifty-five horses (approximately, mostly from Le Plessis Chatelain).
Three ambulances, complete.
Our own casualties were negligible.

A few German dead were seen round their guns, but not many. Approximately forty German dead were counted during the morning. Of the 110 German prisoners captured, about forty were wounded.

The following extract from the diary written at the time by the late Lt. Arkwright, 11th Hussars, is most interesting as showing the action from a subaltern's point of view. 'A' squadron were held in reserve during the first part of the action.

We get orders to be ready to move off at 4 a.m., but at 4 get orders to off-saddle again. At 4.45 * we get orders to saddle up at once, as the Germans are close to, and we start to do so with just normal speed, as such orders come at frequent intervals. When we are half ready, when I myself am brushing my teeth at the

* This time does not agree with official reports, which nearly all give 5.30 as the commencement of the action.

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pump, the Germans get to work with guns, maxims and rifles, at ranges varying from 200 to 1,000 yards. We, the regiment, are lucky in being practically under cover, and all ranks behave as if nothing unusual was happening. We finished saddling up, shut our horses into small yards and 'A' Squadron is set to work to barricade one of the principal entrances to the village; which done we join in the fray outside. I ran outside with my troop behind me, and threw myself down in a gap on the bank by the side of the road. Looking about me I saw Cawley (brigade major) on one side of me with a ghastly wound in his head, obviously done for, poor chap, though he was still alive then. On the other side was a gunner corporal firing away with a rifle quite regardless of bullets all about him, and cursing the Germans all the time, saying they had wiped out his battery and he prayed they might all be killed themselves and so on. Just to my right, in a stubble field, was the wreckage of 'L' Battery and a fearful sight it was too. Guns lying all anyhow, a few men crawling about and bunches of them behind two cornstacks in the field. They got one gun out of the field, and the battery sergeant-major and a French officer attached to the Bays kept on with this at intervals for some time. Lining the bank were my troop, about six of the Bays and their maxim gun, which did great work. Opposite we could see five German guns 800 yards* off, but 'L' Battery had silenced three of them before they themselves were snuffed out, and the last gun plus the maxim gradually silenced the others. Things seem to have gone on much the same on the other sides of the village, and eventually they retired after making one last effort to manhandle their guns away. Some time before this I had secured myself a rifle, and plugged away into this manœuvre with a will.

There are several minor incidents in connexion which are of interest.

The farm at the south-east corner of the ravine was bought by a German a few years previous to the outbreak of the war. The owner left it just before the war began and it was unoccupied at the date of the action.

A wireless message was intercepted during the afternoon from the Commander of the German Cavalry Division which ran something as follows: 'We were attacked by the English at dawn this morning so cannot fulfil our mission.'

A British motor lorry carrying supplies for the Infantry was captured by the German Cavalry Division during the night. The officer who was in charge says he was taken to the high ground above Nery, and was there when the action commenced. Our shells began falling all round and he got into a ditch together with his escort. One by one they retired, till eventually he found himself alone, and after the action was over rejoined our troops with his lorry.

* Distance from this point since measured, 450 yards.

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A chauffeur states that on the night in question, he was driving a Staff Officer, who had orders to find the 1st Cavalry Brigade, and warn them that the German Cavalry had broken through. They failed to find the brigade.

The Mayor of Nery states that when the Germans entered the village the same evening, they treated the inhabitants well. All the dead were collected and buried. The wounded had all been previously collected before the British left. Those who were too bad to move were looked after in the village and neighbouring farms, and were still there when the French entered Nery some days later.

A curious incident occurred with reference to an officer left for dead.

Lieut. Maurice Hill, 5th Dragoon Guards, was reported killed, and his body was brought in (face covered in blood) and put by Colonel Ansells on the ground. The tide of battle flowed over them. In the afternoon of September 1, a woman who was a staymaker in Paris, and who happened to be on a holiday to her father and mother in a neighbouring village, thought she would go up to Nery and see for herself where the fight had been. She found Hill still unburied, and saw he was alive. She managed to get a cart, took him to her house, and when the French some days later drove the Germans back, she reported the fact to a French officer. Hill had remained unconscious most of the time. The French evacuated him when the Aisne fighting was drawing to a close, and the O.C. 5th Dragoon Guards received an intimation from the French at Paris to say that Hill was in hospital there. (He had of course been reported dead and his identity disc taken from him).

One of his brother officers was sent to Paris to identify him. The French found out who he was by means of a pair of boots he had on, made by Peal. They wrote to Messrs. Peal and quoted the number.

Lieut. Hill's recovery was very slow. His memory had completely gone, and he had to start learning his alphabet. He has now almost entirely recovered.

The German Cavalry Division are reported to have crossed the river Autonne in the vicinity of Bethisy. It will be interesting to ascertain the exact positions occupied by our Infantry on that night.

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The following are some of the lessons which may be learned from the action :—

1. *The excellence of our Field Service Regulations and Cavalry Training Manual.*

2. *Cavalry billeted in rear of the Infantry are not absolved from the responsibility of local protection.*

F.S.R. II., Sec. 34. 'An enterprising enemy, especially if he be strong in mounted troops, may find opportunities of evading or breaking through a protective screen and attacking the columns in the rear. The existence of such a screen cannot, therefore, be considered as affording absolute protection, and it does not absolve the Commanders of Forces moving or halted in rear of it from responsibility for providing such local protection of their commands as the situation may render advisable.'

3. *The disadvantage of a divided command in outposts.*

F.S.R. II., Sec. 75. 'In the case of a small force the commander will usually himself detail the whole of the outpost troops and detail an officer to command them.'

The system of outposts in the 1st Cavalry Brigade was in the nature of a standing order. Marching into billets the advanced guard picketed the surrounding country until the units were installed in billets and the night posts in position.

At night, each unit was responsible for its own front. Where two units joined, the position of the posts was decided by mutual arrangement between C.O.'s. Posts were established on all approaches to the village, roads barricaded and patrols ordered to go out before dawn.

General Briggs had preached 'protection' from the day he took over command of the brigade, some two years previously, and he had every reason to feel confident that his instructions were acted up to, at the same time it is doubtful whether the system of a 'divided command' is sound. When, however, we take into consideration the want of sleep and general wear and tear on all units alike during the retreat, it would certainly have been impossible for any one unit to find the whole of the outposts.

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4. *The advantage of mutual support in billets.*

Cavalry Training, Sec. 239. 'Except in the case of very small forces, billets if liable to attack should not be so concentrated that they all may be surprised or brought under Artillery fire at the same time; on the other hand, they should not be so scattered that part of the force can be overwhelmed before assistance can arrive from the remainder.'

When billeting was first practised on manœuvres in England, it was argued that considerable risk was run by so dividing up one's force. The action of the 4th Cavalry Brigade is an example of the possibilities of mutual support in billets, though they were certainly slow in coming into action, probably on account of the fog.

5. *Standing to arms and the morning patrols.*

F.S.R. II., Sec. 75. 'The outposts will stand to arms one hour before it begins to get light, and remain under arms until the patrols sent out at that time report there is no sign of an immediate attack. Mounted patrols should move out before it begins to get light and patrol all approaches which an enemy might use within distant artillery range.'

When morning after morning one stood to arms at dawn, and sent out patrols who never found any enemy, one began to wonder whether it was worth the energy expended. One experience like Nery was sufficient to disperse any such doubts.

6. *Alarm posts.*

Cavalry Training, Sec. 235. 'If billeted in a town, an alarm post should be fixed on, and orders for dispositions given out before men are dismissed to billets.'

This should invariably be the first duty on entering a billet.

When an alarm comes it comes very suddenly, and too late to think of alarm posts, unless already told off.

7. *The advantage of cross fire.*—It was certainly the cross fire of the machine guns of the Bays and 11th Hussars that knocked out the personnel of the enemy's Artillery.

8. *Cover in billets.*—In open warfare, Artillery fire is usually limited

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to field guns, and they can do little damage to men and horses behind walls and houses.

9. *Always take advantage of your mobility, instead of submitting to purely passive defence.*—General Brigg's action, in immediately sending out the 5th Dragoon Guards, is a good example of the fact that the best form of defence is offence. The boot was soon put on the other foot, and the attackers thought that they themselves were being attacked. This must have had a great effect on the German *morale.*

10. *The Mobile Reserve.*—Cavalry should, whenever possible, keep a mounted reserve. The squadron of the 11th did good work. The original intention of the C.O. was to take the remainder of the regiment out to support them. As things turned out, this could have been done and possibly more prisoners secured, but the Brigadier either had other orders or wished to wait until the situation was cleared up.

11. *Never undervalue information.*—An officer of the Bays met a sergeant of the patrol on his return, but so many times had the 'Uhlan' scare been vaunted that the regiment took no notice, and so lost ten valuable minutes. It was not till the first shell landed in their bivouac that they appreciated the situation.

The 5th Dragoon Guards saw a troop of the 11th running out into position, and heard from them that the Germans were close by but took no immediate action.

In conclusion, I would add that, whereas there is much fresh information in this article, the subject is by no means fully thrashed out, and it is hoped that further accounts will be forthcoming from other units who took part in an action, which is not only historical, but extremely instructive from a military point of view; and possibly, when the next article is written, the German side of the story will be obtainable.

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THE ELEPHANT IN WAR.

ALTHOUGH it may at first appear a ponderous subject, a short history of the elephant's war work throughout the ages is put before our readers on account of the geographical interest, and it will be seen that light is thrown upon the question of the domestication of the African elephant in past times.

EARLY HISTORY OF THE AFRICAN ELEPHANT.

Ancient Egypt supplies the earliest evidence of the domestication of African elephants, the hieroglyphs show this type of elephant both wild and ridden by a man sitting on the back.* Already in the 5th

Dynasty, 4,000 years B.C., the town of Assuan, at the first Nile cataract was known as the 'elephant town.' From there ivory was brought north, and it is not improbable that elephants were hunted, captured or killed for their ivory in neighbouring wooded tracts that have since become desert.

Some proof of a former state of greater fertility than is seen to-day may be found in the existence of remains of cities in the desert, the reservoirs of which have, as we know, for centuries held nothing but dry sand. A case in point is the city of Berenice, on the Red Sea. It is well known that a stream of fresh water formerly percolated into the sea at this point, effectually killing the coral 'insect,' and thus keeping the harbour deep enough for shipping. The fresh water has long since

* See Dictionary of Hieroglyphics, No. E475. Published by Harrison & Sons, 47, St. Martin's Lane.

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failed and the coral reefs have encroached, making the old harbour useless. Oriental methods of warfare have always aimed at wholesale destruction. The 12th Dynasty Egyptians thus recorded their treatment of conquered enemies :—

'We cut down their crops and filled up their wells.'

Forest fires have been among the agencies of such destruction, for, with large areas deforested, the rainfall is reduced, and so we find those territories so barren to-day that they will support only the wild ass, gazelle, ibex, and wild sheep.

Pliny the Elder (born A.D. 23) mentions the existence of wild elephants in the regions north of the Sahara, and from the north-west of the African Continent, at Cape Spartel, through Morocco to Numidia, elephants were hunted and were finally exterminated at some period subsequent to the year 200 A.D. Early European travellers saw thousands of elephants in Abyssinia, but these also are probably extinct to-day, owing to the wholesale importation of firearms from Europe since the rise of the Mahdi; and the destruction of cows and immature bulls was much encouraged in the territories of King Menelik by the practice of according the royal privilege of wearing a gold earring to every Abyssinian who has killed an elephant.

Earliest Mention of War Elephants.

The earliest mention of elephants being used in warfare is made by Ctesias, who describes Cyrus as making war against King Amoraeus, whose numerous elephants, concealed in an ambush, put the horsemen of Cyrus to flight. Aelian also quotes Ctesias as saying that the King of the Indians went to war with an army of 10,000 elephants, doubtless including those of both the fighting line and transport columns. Some authors have discredited the statements of Ctesias, but without good reason, for he was himself a practical soldier, having been present with Artaxerxes Mnemon at the battle of Cunaxa, B.C. 401.

Other Early Records.

Diodorus Siculus mentions a force of 10,000 war elephants in an expedition made by Semiramis, Queen of Assyria. It is not likely that so large a number would ever have been concentrated on a single battlefield, but, making due allowance for exaggeration, it must be

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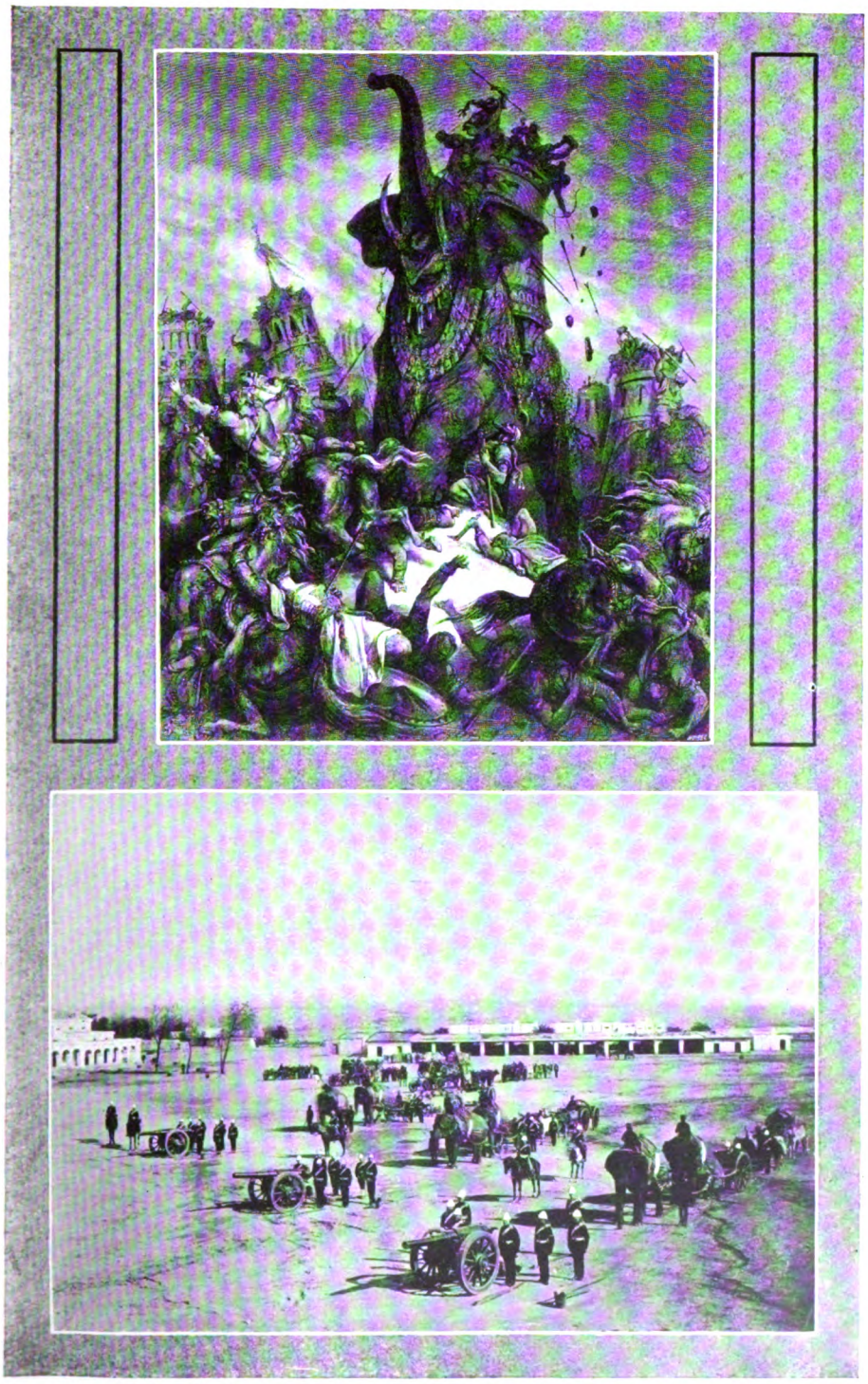

THE DEATH OF ELEAZAR
AND THE ELEPHANT BATTERY THAT TOOK ALI MUSJID, 1879.

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MAHMUD OF GHAZNI'S INVASION OF INDIA IN 1001 A.D.

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obvious that a leveé *en masse* of the populous countries of the East would have included a heavy muster of working elephants at the front and on the lines of communication.

Homer makes no mention of the elephant, and the first naturalist to write an exhaustive description of the animal was Aristotle. War elephants must have been known to the inspired writers of the Bible, but, though references are suspected in the Old Testament, the only detailed historical account is to be found in I. Maccabees vi., 43-6, written about 200 B.C., in which King Eleazar Savaran is described as charging forward at the largest war elephant and spearing it from below, with the result that the dying monster crushed him to death. War elephants were often protected by armour and had steel blades fastened to their tusks. They were saddled with small towers of various designs, which accommodated from three to six combatants in addition to the conductor, who rode on the animal's neck. According to some authorities, these towers held as many as ten or even fifteen soldiers, but such a load could have been carried only a short distance for some special purpose.

Wars of the Macedonians and Syrians.

Alexander the Great reached the Indus B.C. 327, and crossed, at a point where Attock now stands, in face of the Indian army of Porus, who placed a hundred elephants in the front rank, eighty of which were captured by the Macedonians. Four years later, Alexander died at Babylon, and his successor Perdiccas celebrated his accession to the throne by causing three hundred mutineers to be crushed to death by elephants, these animals being the recognised executioners according to an Indian custom, which continued down to the 18th Century. Eighteen years after Alexander's death we find Chandragupta, ruler of India, owning 9,000 elephants and giving 500 as dowry with his daughter to Seleucus, King of Syria.

Plutarch, who died A.D. 140, relates that at the Battle of Ipsus (301 B.C.) Antigonus had only seventy-five elephants with which to oppose the 400 put in the field by the Confederates. This is the largest number of elephants recorded as taking part in any battle fought in Asia Minor or countries bordering on the Mediterranean. In 275 B.C.,

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the Syrians, under Antiochus Soter, defeated the Galates by the aid of a small force of only sixteen war elephants, which stampeded the cavalry and chariots of the enemy. The elephants of the Syrians are described as trampling down the fugitives, impaling them on their tusks, and tossing them in the air. When offered a victor's wreath by his soldiers after the victory, Antiochus declined it, exclaiming 'We ought rather to blush that we owe the victory to these brutes!'

Battle of Raphia.

The Battle of Raphia (217 B.C.), fought near Gaza, in Palestine, is remarkable for the fact that, for the first time, African elephants were pitted against Indian, with the advantage in numbers on the side of the latter.

Ptolemy IV., the unamiable poisoner of his own father, knew something of the drawbacks of insufficiently trained African elephants, for on one occasion, when he had wanted them to crush a number of Jewish prisoners to death, they turned on the spectators and destroyed many before the tragedy could be stopped. Nevertheless, in this battle he employed seventy-three African war elephants, with an army of 70,000 footmen and 5,000 cavalry, made up of Greeks, Gauls, Arabs and men of Thrace. The enemy was commanded by Antiochus the Great, who on this occasion put 102 Indian war elephants into the field, with 71,000 footmen and 6,000 cavalry, a still more mixed army, consisting of Greeks, Syrians, Galates, tribesmen from Central Asia, Medes, Persians, and Armenians. On both sides the elephants were placed with the cavalry upon the flanks. Polybius relates the manner in which these rival species of elephant met in the crush of battle. The moment one of them exposed his flank he was pierced by the opposing elephant's tusks and fell dead, the armies halting in their advance to contemplate the death struggles. At length nearly all the Africans were killed or captured, but Antiochus pursued the retreating enemy too far and met with defeat.

The Ptolemies.

Whence did Ptolemy II (Philadelphus), son of Alexander the Great's favourite general, procure the elephants which served his successors so indifferently when they met the well-schooled Indian elephants in

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battle? The answer has been furnished by the Greek geographer Agatharchides (140 B.C.). The original manuscript of his works on the Nile Valley has not been preserved, but is quoted by Diodorus Siculus, and other later authors. Strabo, Pliny and St. Jerome also show that the great elephant hunts organised by Ptolemy Philadelphus took place on the Red Sea littoral, on the Atbara and Blue Nile, and these captured elephants were embarked for Egypt in special craft known as ελεφαντηγοι. In this way 400 war elephants were available. This, in fact, is the actual number employed by Ptolemy III. (Evergetes) in his conquest of Syria and Persia, and they made his name feared from Bactria in the east to the Hellespont on the west. In addition to this force, he had also captured a large number of Indian elephants from Seleucus Callinicus. Finally, the sixth Ptolemy, son of Cleopatra, kept 500 elephants stabled at Alexandria, where they remained for a century.

First Appearance in European Warfare.

It is unnecessary to make separate reference to all the battles in Asia in which elephants figured during this period, but it is noteworthy that their first appearance on a European battlefield was only four years after the death of Alexander the Great, when Antipater, on assuming the regency of Macedonia, took with him seventy of these animals, which were followed by others. It was not long before they were put in the field, for in 318 B.C. Polysperchon besieged Megalopolis, which was held by the forces of Cassander. The Macedonians attacked with sixty-four elephants whose towers were specially built during the siege, so as to command the highest walls.

The Macedonian mines had brought down part of the defensive works, and an assault was in contemplation, but the defenders, having got wind of Polysperchon's plans, contrived, secretly and under cover of darkness, to strew the ground with long nails fixed through doors and frames, which were concealed under loose earth. The Macedonians attacked with their elephants leading the advance, but met with disaster. The foremost of the huge animals, treading on the nails, were panic-stricken; the largest and most formidable of them fell on the spikes, and the remainder, maddened with pain, fled, killing their own troops. In consequence the siege had to be raised.

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Wars of Pyrrhus.

In the year 280 B.C., Pyrrhus attacked the Romans, then in occupation of Heraclea, near the Gulf of Tarentum. His elephants were the first seen by the Romans, and from the supposed resemblance of the tusks to the horns of oxen, the Roman soldiery named them *boves lucas*, or Lucanian oxen.* These elephants that accompanied the army of Epirus are considered to have been the only Asiatic elephants ever used in the wars in Italy,† but African elephants soon became familiar to the Romans, who were, however, never able to hold them in contempt.

In the following year (B.C. 279) was fought the Battle of Asculum, in Southern Italy, in which Pyrrhus, with numerous elephants and cavalry, met the Romans, who had taken up a position on ground intersected by bush and marshes, with the object of reducing the efficiency of the elephants. The encounter is chiefly memorable for the courage of Minucius, a Roman of the 4th Legion, who attacked an elephant and with a stroke of his sword severed its trunk. Inspired by his example, his comrades assailed the elephants with javelins and burning darts, and so managed to avert defeat, though the issue of the battle was indecisive. Then followed the Battle of Beneventum, in which 20,000 disciplined Romans defeated Pyrrhus at the head of 80,000 men. Eight elephants fell into the hands of the Romans and of these four survived to be paraded through the streets of Rome.

The Carthaginians.

Contempory with the rise of the Ptolemaic power in Egypt, the Carthaginians began to organise their defences and cemented their alliance with Numidia and Mauretania, from the forests of which countries, lying at the foot of the Atlas Mountains, elephants were in due course procured for purposes of war. It is unlikely that the Carthaginians ever had more than 300 trained elephants at one time, but in the first Punic War, at the Battle of Tunis (B.C. 256), they owed their victory to the prowess of a hundred of these animals, which

* Pliny: Nat. Hist. vii., 6. Bearing in mind the scanty resemblance between the so-called 'sea-lion' and the king of beasts, it is difficult for modern criticism to take exception to the nomenclature of the Roman legionaries.

† See Histoire Militaire des Elephants by Le Chevalier P. Armandi, Paris, 1843.

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marched in front of the phalanx of Footmen. In the hope of frightening the elephants, the Romans gave their war cry and beat on their shields with their swords, but the African war elephants charged them. The Cavalry swept over the Romans, whose formations had been broken by the elephants, and the advance of the phalanx completed the destruction of an army computed at upwards of 15,000 troops.

First Punic War.

In 251 B.C., Hasdrubal landed in Sicily with Carthaginian reinforcements and 140 elephants, and attacked the Romans before Palermo. The legions feigned retreat and brought the pursuing elephants within close range of the walls, when they were opened upon with flaming arrows and other projectiles, including the *falarica*, a long spear with a 3 foot blade, garnished along the hollow shaft with fireworks and discharged from machines or catapults. The elephants fled, trampling down the Carthaginian infantry, and the Romans, now taking the offensive, accounted for 20,000 of the enemy. Twenty-six of the elephants perished, and 104 were taken alive. These, with others captured in Africa, were first driven about in the circus at Rome and then butchered to save the forage bill. It was not long before the Carthaginian state elephants were employed in the suppression of internal strife. One hundred thousand rebels threatened the stability of the Republic, but Hamilcar Barca attacked them with a hundred elephants and a well-trained cavalry, routed them and drove the fugitives into the inhospitable hill tracts of the interior. Here the rebels were reduced to cannibalism, until at length, in a desperate sally, the remnant met with destruction, leaving 40,000 dead on the field.

Second Punic War.

It was impossible for the two Republics, rivals for the Empire of the Mediterranean, to remain long at peace, and the Second Punic War was commenced by an attack of Carthage on the Roman possessions in Spain. In this expedition, 200 African war elephants formed part of the army of occupation. In 219 B.C., Hannibal carried the war into Italy, taking thirty-seven elephants with him across the Rhone, but losing a considerable number of them in his passage of the Alps. At

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the Battle of the Trebbia, the Roman legionaries repulsed the elephants by making concerted attacks against their vulnerable parts and hamstringing them, but the animals after their repulse were brought back against the Roman flank and took part in the victory. All except eight had, however, been destroyed, and of these seven subsequently died from exposure. Soon after his victory at Lake Trasimene, Hannibal received a reinforcement from Carthage, with forty elephants, which were gradually reduced by losses in battle until, fifteen years after Hannibal's first invasion, only seven survived to share in the final defeat of the Carthaginians on Italian soil. The Carthaginians, however, continued to use elephants in their campaign against the Roman garrisons in Spain. At the Battle of Munda, near Granada, no fewer than thirty-nine were killed by pike thrusts, and in 206 B.C., when the mastery in Spain was decided in favour of the Romans at Elinje, eight out of a total of thirty-two elephants engaged were captured and the rest killed.

Four years later, at the Battle of Zama, in Africa, the elephants seemed about to win the day, for the Cavalry of Scipio would not face the line of eighty of these animals opposed to them, and the army of Scipio appeared to be giving way when Scipio himself dismounted, seized a javelin from a soldier and, rushing forward, plunged the weapon into an elephant's breast. His example turned the fortunes of the fight, and finally eleven of the elephants were captured and all the rest were slain.

At length Rome compelled Carthage to engage by treaty to employ no more war elephants in future, but we find the rulers of Northern Africa organising elephant hunts for the supply of Rome; and in 47 B.C., at the Battle of Thapsus, Juba, allied with Cæsar's enemies, suffers defeat and the loss of all his sixty-four elephants. A small number of these animals continued to be used by Roman Colonial expeditions in Thessaly, Syria and Gaul; while we know that Julius Cæsar brought one to Britain and found it of service when crossing the Thames in the face of armed opposition.

In Persia.

For the next three centuries we find no mention of any large number of elephants being used in the wars of the West, their vogue beginning with Alexander the Great and ending with Cæsar. Yet they were still

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employed in Asia, and when the Roman Empire was engaged in operations against Persia (363 A.D.), we find that the Persians disposed of 300 or more elephants protected by armour and carrying bowmen in towers.

In India.

Mahmud of Ghazni led twelve expeditions from Afghanistan across the Indus, between the years 1001 and 1024 A.D., capturing upwards of 1,665 elephants from the Princes of India. He defeated the Turks when they invaded Khorassan by placing 500 elephants in his front line. Mahmud himself rode a white elephant, which was seen, in the thickest of the fight, to seize the standard bearer of the Turkish leader, Illek Khan, in his trunk and fling him in the air, after which the animal trampled a great number of Turks underfoot.

In 1399, Timur invaded India, and at Ferozabad, near Delhi, he encountered the army of Mahmud Nassir ed Din, including upwards of 120 elephants, protected by armour and carrying towers, their tusks being fitted with sword-blades and poisoned spikes. Timur drove a herd of buffaloes, with burning faggots attached to their horns, against the elephants, which stampeded and broke the left wing of the Indians resulting in their total defeat. The booty comprised 120 elephants and 12 rhinoceroses.

In 1571, the Portuguese settlement in Goa was attacked by an Indian army, comprising over 2,000 elephants and between 250 and 500 guns, but the attempt to expel the Portuguese from Hindustan failed. In the 17th Century, the Great Mogul owned between thirty and forty thousand elephants, of which 12,000 were at his immediate disposal, 5,000 being males and 2,000 trained for military purposes. Of these 300 carried two-pounder swivel guns, six feet long, with a crew of four gunners in each howdah. Before aiming and discharging the gun, the elephant's back had to be turned towards the enemy. The introduction of firearms had, however, begun to restrict the use of war elephants, owing to their extreme nervousness under fire, which made them more liable to injure their own side than the enemy. The British in India also utilised elephants for dragging siege train and for carrying artillery, but the use of elephants in the firing line was avoided as far as possible, and draught oxen were usually substituted.

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In the Afghan War, 1878-9.

The last appearance of elephants in battle was in the Afghan War of 1878-9, though it was not until the last decade of the 19th Century that their employment in drawing heavy guns was finally abolished. It had long been deemed advisable to replace them by oxen when there was a likelihood of their coming under modern shell fire, but the military authorities were persuaded to retain them for the sake of their wonderful climbing powers and immense strength. Their silent movements and aptitude for getting over the roughest ground in darkness proved of great service at the Battle of the Peiwar Kotal (December, 1878). During the night march that led to the surprise attack on the left flank of the Afghans, the Mountain Artillery, carried by mules, was strengthened by four Horse Artillery guns placed with their carriages on the backs of elephants, which subsequently made the steep ascent of the mountains and took part in the engagement.

Throughout the operations in the northern passes, from the Khyber to Kabul, heavy elephant batteries were also employed, a pair of elephants in tandem harness drawing the limbered gun. The harness of the shaft and leader elephants together weighed 4 cwt., and the brunt of the weight fell on the former, including breast-harness, breeching and shafts. The nine-pounder batteries mustered twenty-two saddle elephants apiece, and the guns, carriages, limbers and ammunition cases were in cradles resting on thick pads. The cradle for the gun supported it by an arch at the breach and at the muzzle, which pointed to the rear. A squad of twelve men was able to dismount a gun and its carriage, assemble them and come into action in less than four minutes. Where, as was generally the case, the ground was very stony, it was found necessary to place pads for the elephants to kneel on, as they were otherwise liable to stand up at a critical moment to ease their limbs from the pain. In rising, it must be remembered, the elephant elevates the fore-hand first, and in lying down he flexes the fore-legs at the elbow and the hind-legs at the stifle. The fore-foot is bent inwards, with the sole turned towards the root of the trunk, and that organ lies curled up on the ground. The animal is therefore awkwardly placed for rising with a heavy load on its back.

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Guns were also carried by elephants in Southern Afghanistan, on the march from Kabul to Khandahar, and throughout the campaign, in fact, they were often attached to ordinary field batteries.

As has been said, however, we find their use with Artillery discontinued at the end of the 19th Century, and the huge animals are henceforth relegated to the transport department, or to the establishment of officers of state for purposes of pageantry or sport.

IMPORTANT

The Staff of the Journal is very limited, and it is therefore necessary for all officers who obtain the Journal direct from the Managing Editor to report any alteration of rank or address immediately, as it is quite impossible at the present time to follow up the Stations of Regiments, and still more so of individual officers; such changes of address must be received at least 14 days before Publication.

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THE FRENCH HORSE-BREEDING AND REMOUNT DEPARTMENT.

Compiled during a brief visit to France by the Director of Remounts, April, 1914.

(*By permission of the Controller of H.M. Stationery Office.*)

ORGANISATION OF THE REMOUNT DEPARTMENT.

THE Remount Department includes :—

(1) A directorate at the War Office.

(2) Inspectors in charge of remount circles.

(3) Superintendents of the purchasing remount depôts.

(4) Officers attached to these depôts as purchasers.

(5) Superintendents of 'annexes,' or establishments for the storage of young remounts till ready for issue. (These are normally veterinary officers.)

(6) *Personnel* of remount depôts. Total five companies, of which four are distributed among depôts and one serves the Military College.

(7) *Personnel* detached from mounted corps for service at the annexes.

The purchasing depôts are located to serve the districts where horses are bred, *being designed primarily for the encouragement of horse-breeding by the purchase of young horses direct from breeders.* Based upon reports received from remount circles, an allotment is made every year by the remount directorate showing the number of horses to be purchased by each depôt, the corps to which they are to be posted, and the annexes at which those under five years old will be stored and matured.

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This allotment is subject to modification as the purchase proceeds.

Purchasing is carried out by committees of three officers, of which the superintendent is president:

(*a*) At the depôt on a certain number of days in each month throughout the year.

(*b*) During regular tours of the surrounding district, from July 1 to March 1.

(*c*) At fairs and horse shows, and wherever horses are gathered together.

The depôt superintendents are responsible for arranging and advertising these tours, which are designed to tap all centres of breeding, and bring the market as much as possible to the farmer's door.

The civil authorities co-operate, and the advertisements indicate exactly the type of animals required and the conditions of purchase; no purchase is final till after the veterinary inspection, which follows the arrival of the animal at the remount depôt or other military establishment to which he is consigned.

Horses are bought from breeders at the following ages:—

All chargers, and Cavalry and Horse Artillery troopers usually in October, when rising four years old; but sometimes the purchase is authorised to begin in July.

Field Artillery troopers from January 1 on which they become four-year-olds.

After November 15, the Army buys thoroughbreds aged two and a-half which have been in training—these are horses considered unlikely to win races, which owners prefer to sell to the Army cheap than risk their purchase in the open market by a rival trainer.

The thoroughbred mares usually go direct to regiments as chargers; the colts are first castrated at a remount depôt.

No horses are bought from dealers under five years old, and French remount commissions never go abroad to purchase.

Especially this year, owing to increase of establishment, a number of foreign horses have been bought from dealers in France, among them some 2,500 Irish and English horses.

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The freight and import tax come to £9, so there is not much profit in the business for English dealers at French trooper prices.

The few horses I saw in the depôt at Montrouge were officers' chargers, and appeared to me to have been cheaply bought at £55 to £64, considering their age and the freight and import tax.

They included a nice quality six-year-old Irish hunter up to 14 stone, with a docked tail, £62; a stout five-year-old 15.1, of no great quality, bought for Artillery, but up to weight and a good mover, going out as a charger, £55; a six-year-old horse Colonel Ferrar would have bought for R.H.A., £60; a weight-carrying grey hunter, with good manners, probably a sale-yard bargain, seven years old, £64.

The heights are :—

Cuirassiers	15 hands 1 inch to 16 hands 1 inch.
Dragoons	15 hands to 15 hands 2 inches.
Light Cavalry ..	14 hands 2½ inches to 15 hands 1 inch.
Artillery	15 hands 1 inch to 16 hands.
Infantry chargers ..	14 hands 2 inches to 15 hands 1 inch.

The prices this year are, for chargers :—

	£
Cuirassiers	71
Dragoons	60
Light Cavalry	54
Staff chargers	60
Infantry { Horses	44
Infantry { Cobs	30
Special horses for Military Colleges—	
School horses	56
'Chasers'	72

Prices for troop horses are :—

	£
Cuirassiers	51
Dragoons	44
Light Cavalry	38
Draught horses	40

The total number to be bought in 1914 is 15,500 horses.

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I was informed that about half the annual remount contingent is bought from breeders, the rest from dealers.

The breeding of horses bred in France is always entered on the rolls at purchase, and is carefully preserved and always known in the regiment.

French law permits the return of all horses within nine days from date of purchase which may be found to suffer from certain diseases and vices, i.e.:—

Intermittent lameness.
Chronic roaring.
Crib-biting and wind-sucking.
Jibbing.
Intermittent ophthalmia (30 days).

After purchase, horses are usually sent to a remount depôt, of which there are seventeen. There they remain under veterinary observation for not more than twenty days before being drafted to their corps, or if under age to the annexes attached to the depôt.

If, however, it is cheaper to send aged purchases direct from the place of purchase to their corps, it is done.

Issues are therefore made as follows:—

Five-year-old horses are issued as they are bought, either direct from place of purchase, or after twenty days' sojourn in a depôt. Horses under five years old are issued in one batch, in October, from the annexe where they have been for a year or less since their purchase.

Four-year-old thoroughbreds are sent direct to regiments, as also are any half-bred horses, which work and hard food may have rendered fit to commence their training.

The utmost latitude is allowed in remount depôts as regards diet and clothing of remounts, to ensure their gradual return from sale condition to normal health, and the hygiene of these establishments, through which horses are constantly passing, is always the subject of anxious care.

The stables are invariably roomy, light and airy, and there is plenty of them. The service of the depôt is carried out by cast horses.

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Annexes to Remount Depôts.

The establishments where young horses are matured for issue are either on Government land, as at Châlons, or on land the property of communes or individuals. In the latter case, either the existing farm buildings are adapted, or the owner undertakes their erection according to the approved pattern plan, and the State pays an inclusive rent for the whole on a long lease. The Government appear to have been recently pinched over the renewal of some of these leases, and prefers owning its depôts if possible.

The annexes (except that at Châlons) are attached to and superintended by the remount depôts. They are in immediate charge of a resident officer, either a Captain of Cavalry or, more frequently, a veterinary officer.

The *personnel* consists of a warrant officer, non-commissioned officers and men, drawn from the mounted corps to which the young horses will eventually belong.

The men are all grooms, jockeys, or farm labourers, and come direct to the annexes, where they complete their service without even joining their regiments. Annexes are all managed on the same lines, though in some the accommodation is more convenient than in others.

The horses are not usually grazed; it is only the thin and delicate animals for whom any grass is reserved.

Animals are divided into stables of forty, which always remain together, and separate from the other batches.

The forty-horse stable consists merely of four light walls, a cement flooring, and a tiled roof; there are two large doors in the middle, and mangers, hay-racks and rings all round.

The forty horses are always brought in for the night, the whole stable being bedded down and the horses turned loose.

They are always fed in the stable, tied to the rings; there are no bales or other divisions, but the hind shoes are off and they stand quietly together.

There is only one man to ten horses, so the work is confined to keeping the stables clean, feeding and watering, and the animals spend

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most of their time in the paddock, coming in to feed and to escape the sun, flies, rain or cold.

In every annexe is an exercising track, round which each lot of horses is driven daily for exercise.

Before departure for their regiments the horses are tied up for a great part of the day and handled and brushed over.

They certainly look well and are quiet. Sick-horse accommodation is supplied in the proportion of 10 per cent.

Special Arrangements made by the Remount Department to Encourage and Assist Horse-Breeding.

(1) *Purchase of Young Mares.*

The remount service is authorised to buy in March and April three-year-old mares, which would not ordinarily be bought till October, but which are specially suitable as brood mares. These mares are paid for, but are left with their breeder, or, failing him, with some other reliable breeder to be put to an approved State stallion, and to produce and wean a foal in two successive years; the mares finally join their regiments in the autumn when rising six years old.

Careful arrangements are made for the inspection of the mares, and premiums are given for good care bestowed on them amounting to not more than £10 for the first year, and £18 for the second year. These maxima are reduced to £6 in each case if the mare is barren. The produce is the unconditional property of the breeder.

Mares which prove to be in foal after purchase are given to breeders till the foal is weaned for their keep (the produce becoming the allottee's unconditional property).

(2) *Sale of Cast Mares to Breeders.*

Saddle mares which have been cast, but are considered likely to make good broodmares, are sent back to the depôt that bought them, and there sold at a closed auction of approved breeders recommended by the civil officials of the district.

I saw a number of such mares being sold at Montrouge.

Out of thirty-five mares only about half a dozen were such as our Board of Agriculture would have accepted.

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One was an English thoroughbred mare, Miss Pratt, ten years old and moving quite fairly well, though cast for sprained tendons; she fetched £20.

Another was a Belgian thoroughbred which fetched £16, and the other good ones were half-bred Normandy mares cast from Cuirassier regiments—one, thirteen years old, fetched £20. The remaining thirty were a very nondescript collection, among them two very weedy little Irish mares. The prices went as low as £5 for a little bit of a Breton roadster.

It cannot be good policy to encourage the production of what must almost inevitably be misfits.

(3) *Premiums given at Local Horse Shows.*

£6,000 is usually taken in estimates for this service.

The premiums are given to geldings and mares, three and a-half to six years old, shown under saddle and purchased by the Remount Department. The amount of the premium varies with the excellence of the animal, and is extra to, and quite apart from, the purchase price.

In all these cases one-fifth of the premium belongs to the breeder, who thus frequently benefits quite unexpectedly from what is known as the *pluie d'or.*

Points are given as follows:—

(1) Conformation, 5 points.
(2) Substance and 'presence,' 5 points.
(3) Strength, cleanness, and shape of the limbs, 5 points.
(4) Paces, 5 points.
(5) 'Quality,' 10 points.
(6) Training, 10 points for horses five years and over.
,, 5 points for horses under five years.
(7) Age, four-year-olds, 5 points.
,, five-year-olds, 10 points.
,, six-year-olds, 15 points.

Dealers are excluded from these competitions.

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A winner may, if he wishes, relinquish the prize and take an honorary certificate in its place, if on reflection he prefers to keep his animal.

(4) *Good Prices given for Three-year-old Remounts bought direct from Breeders.*

The whole remount system is based upon the direct purchase of horses bred in France; in fact, remount depôts proper are called *Depots de Remonte Acheteurs.*

Prices have been raised by £10 in the last two years.

The last rise of £5 took place after the practical completion of the purchases from breeders for the year, yet I am informed that for each horse bought the additional £5 was paid, though long after the purchase had been completed. Such care does the French Government take to encourage horse-breeding.

French Charger Regulations.

General Conditions.

The State undertakes to supply to all officers free of cost the chargers of which they are required to be in possession both in peace and war, except in the case of officers of general's rank, who are charged 15 francs a month for each Government charger in their possession.

Officers are permitted to provide their own chargers under certain conditions, instead of selecting Government horses, but they must have them taken on the strength; general officers can escape the payment of 15 francs per month if they purchase their Government chargers from the State, or buy their own horses in the open market.

The payment in this case, which is the value of the animal, must be made in either one or two equal sums, and though the horse becomes the absolute property of the general the State retains the right of pre-emption if and when he desires to part with it.

If an officer's horses are *hors de combat* at the time of manœuvres he can ride a troop horse, but before he obtains this permission he must be in possession of his full complement of horses. Officers may,

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with the permission of their commanding officer, keep one private horse in barracks, on rations for which they must pay.

All transactions in chargers are carried out under the superintendence of a regimental committee.

Detailed Regulations.

Charger Committees.—Permanent committees are formed in every mounted corps, consisting of a senior officer as president, a captain, and a veterinary officer.

The duties of the committee are to hand over chargers to officers; to receive back into the ranks horses no longer required; to sell chargers to generals who desire to become possessed of them, instead of paying 15 francs per month; to buy back such Government chargers when generals desire to part with them; to examine and, if approved, purchase private horses which officers may produce to be passed in as chargers, and in this case the committees buy the horses and hand them over to officers as their Government chargers.

The committees' decisions are final and there is no appeal.

In buying horses they cannot be too careful to make sure that the horse is suitable and properly trained, and quiet with troops of all arms.

The committees must have no hesitation in buying back for the State horses, the property of general officers, on which the State has a lien, in spite of the fact that the horse is worth far more in the open market, and on the other hand, they must not hesitate to refuse any horse which has lost value in the general's hands.

Officers cannot act on a committee when the question of their own chargers is under consideration.

Permission to draw chargers is obtained from generals commanding Army Corps, who will be governed by the regulations.

Permission to return chargers is given by the same authority. These permissions are available for three months only.

Sources from which Chargers are drawn.

General officers who do not obtain their chargers by private purchase, or from the ranks, are permitted to take them from the Cavalry School at Saumur, or the Staff College, or from a special remount depôt

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at Montrouge, in Paris, from among a special lot of horses classed as general officers' chargers. Generals of divisions and brigades who have under their command regiments of Cuirassiers are allowed to mount themselves from those regiments.

Officers of mounted corps can choose their chargers from their own regiment.

Mounted officers of dismounted corps are mounted in four classes.

1st Class.—Special chargers. Officers of the General Staff, unattached.

2nd Class.—Dragoon and Artillery horses. Officers of the General Staff attached to corps; probationers for the General Staff; Staff officers not belonging to the General Staff; special General Staff attached to Artillery and Engineers; officers of dismounted Artillery and Engineers; officers of Military Police; veterinary officers; field officers of Infantry.

3rd Class.—Light Cavalry horses. Intendants: senior field officers of Infantry.

4th Class.—Castrated Arabs (equivalent to cobs). Infantry captains and medical officers of junior rank.

For the 4th class there are not sufficient castrated Arabs, and failing them, company commanders are mounted as follows:—Each Light Cavalry regiment brings forward every year seven horses, well trained, quiet, and in every respect suitable as Infantry chargers. These are submitted to the judgment of an Infantry brigadier, and are then set aside for selection as Infantry chargers, when required; if these are insufficient, horses re-classified as unfit for Cavalry may be used for this purpose.

Horses thus put aside, as possible Infantry chargers, are considered as extra to establishment of the regiments to which they are attached, and are especially ridden alone, and on parades of all arms.

Infantry officers weighing 13 stone and upwards may be mounted on horses similarly selected from Dragoon and Artillery regiments.

Choice of Horses in Mounted Corps.

When several officers in a mounted regiment require chargers at the same time, they will select them in accordance with the date of

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their authority; where several authorities bear the same date, the officers will make their choice in order of seniority.

Officers who are already in possession of one horse will not choose a second until officers who have no horse have made their selection. Medical and veterinary officers will make their selection after combatant officers have been supplied, and they will usually be mounted on grey horses; in any case, the selection must be approved by the commanding officer of the corps to which the horses belong, provided always that no officer shall have to wait more than three months dismounted, and that the horses selected are suitable for the officers who take them.

Choice of Horses by Officers of Dismounted Corps.

When the number of horses required exceeds the number of those set apart for the purpose, demands will be complied with in accordance with seniority. In either case, the order of priority of choice will be the same as in mounted corps.

Exchange of Horses.

Exchanges between officers may be sanctioned by generals commanding brigades or Army Corps on legitimate grounds. The officer on taking over the horse becomes responsible for any depreciation which has not been previously regularly recorded.

General officers, when mounted on Government horses which they may have purchased from the State, may make exchanges only with the permission of the Minister of War.

Officers changing their corps or appointment may either keep their horses or return them, as they wish, with the exception of :—

(*a*) Officers proceeding on foreign service.

(*b*) Officers changing from Heavy to Light Cavalry.

Officers proceeding on foreign service, who are mounted on private horses, can take them with them at their own expense. Officers on leave not exceeding three months may take their horses with them at their own expense, and are given credit for their forage.

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Manœuvres.

No horses belonging to the State may be taken to the manœuvres if less than seven years old. Officers whose horses are not available for this cause, or by reason of sickness or accident, may on production of a veterinary certificate be provided with troop horses.

Purchase of Private Chargers.

Any officer can waive his right to the selection of a Government charger and bring forward in its place a private horse for the Government to purchase, and allot to him as a charger, under the following conditions :—

Horses must be between the ages of six and eight, except thoroughbreds, which may be bought at four, and Anglo-Arabs, which may be bought at five. For eight days the horses will be under observation for soundness, temperament, training, and staying powers ; if, at the end of this period, the commanding officer considers the horse suitable, it will be brought before the permanent charger committee and finally purchased.

General Officers' Chargers.

Government chargers purchased by general officers are handed over at the fixed charger price of their class, up to the conclusion of their ninth year ; from the beginning of the tenth year the price is reduced by one-eighth annually, but in no case will the deduction exceed five-eighths.

In every case, credit is given for any payment—that is, 15 francs per month—already made on account of the horse.

In any case, generals become the owners of horses when the monthly payments of 15 francs reach the sum equivalent to the price of the horse. When general officers proceed on foreign service, or return home from such service, they receive credit towards the purchase of other horses in the new country in which they are to serve, for payments made on account of their horses in the old country.

Care of and Responsibility for Government Chargers.

Commanding officers will exercise careful supervision over free Government chargers in possession of officers ; their use in harness is forbidden, and they are on no account whatsoever to be lent to civilians.

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Government chargers are handed over to *officers personally*, and officers become responsible for them from the day they are handed over until they are properly relieved of them. When the chargers cease to be required, officers must relieve themselves of the responsibility, by arranging for their return to the ranks unless their successors desire to take them over in the condition in which they may be; in this case, the successor becomes responsible.

Officers are pecuniarily responsible for the loss of a horse if they are adjudged liable; also for depreciation which did not exist before they took the horse over, and for which they are unable to produce documents relieving them of responsibility. On this account officers in possession of chargers must immediately obtain a certificate signed by the veterinary surgeon, endorsed by the intendant, and accompanied by a report initialled by the commanding officer, showing the cause of death, or of accident occurring on duty, or as the result of duty, which caused depreciation to the animal. In case of accidents, these certificates are preserved by officers for production on the return or casting of the horses. In case of death or casting, but only when the officer is considered responsible, a certificate must be sent to the Minister of War.

In case of death, the certificate must be supported by a post-mortem examination. The casting value, if he is cast, or the value of the carcase in case of death, is deducted from the sum which the officer has to pay for the horse.

General officers receive credit for the interest which they have acquired in their chargers in case of their death, casting, or return to the ranks as the result of accidents occurring on duty, but not in the case of accidents occurring in the stable or as the result of sickness. The compensation to be paid will not exceed the price paid for the horse, less a deduction of one-eighth for every year beyond nine.

Return and Re-classification of Chargers.

Applications to return chargers will only be entertained for military reasons; horses are not to be returned which ought to be cast from the service.

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Re-classification of chargers will be made at the annual inspections by general officers commanding, who will detail the corps to which re-classified chargers are to be returned. The charger committees will enter the necessary remarks upon the certificate which permits the return of chargers. Committees, when making their inspections of returned chargers, will be furnished with all the documents and verbal information possible to enable them to make their report. Officers need not be present themselves at this inspection, but must nominate a representative, who will produce all the necessary documents, veterinary history sheets, and so forth, which will relieve them from responsibility for all injuries or deterioration. The committees will determine what, if any, sum is due from the officers returning horses for depreciation, having due regard to the horse's age and the length and the nature of the service which he has performed. Generals commanding Army Corps will finally decide upon the sums charged to officers, and will arrange for the payment of the same. Mounted units cannot refuse to receive horses, the return of which has thus been duly authorised.

Casting of Chargers.

Horses considered unfit for further service should be cast on the spot by proper casting authorities, and will be sold within fifteen days.

Return of the Government Horses obtained from the Remount Department by General Officers on payment.

Horses which generals desire to dispose of must be brought before a charger committee, which will give a certificate that the horse is fit or unfit for further military service, as the case may be. Horses still fit for military service will be bought under the conditions set forth above—that is, at the original price, if not more than nine years old, and with a reduction of one-eighth for every year's service afterwards. This price must not in any case be considered as the basis of calculation if the horse is subsequently issued to another general officer. If the horse is not considered fit for further service, the general may dispose of him as he likes. Any horse which has been put before and refused by one charger committee can in no circumstances be shown to another committee.

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Heirs to deceased General Officers.

Heirs must give up to the State, horses obtained from the Army of which the deceased general may have been in possession, and can only dispose of them privately if pronounced by a charger committee unfit for further military service.

CENSUS AND CLASSIFICATION OF THE HORSES FOR IMPRESSMENT.

It is interesting to compare with our own the system of horse classification and impressment carried out in France, where possibly mobilization is regarded by the people more seriously than with us.

Early in December each year notices are issued to all horse-owners, and by January 1 they are legally obliged to attend at the local Mairie and make a declaration giving details of their horses.

This declaration is verified by the gendarmerie, and proceedings are taken against anyone who omits or falsifies any particular.

On January 20, an abstract (in duplicate) is sent by each commune to the sub-prefect, who forwards one copy to the district recruiting office. This information must reach the Army Corps commander by February 15, and military commissions detailed by him classify the horses between April 15 and June 15. Certain districts are classified every year and others in alternate years only.

Commissions include an officer of a mounted corps, a veterinary officer, and a country gentleman appointed by the prefect.

The commission attends at the Mairie, where all the horses are produced at fixed hours as arranged by the civil authorities, and after examination are classified as Cuirassier, Dragoon, Light Cavalry, Artillery, and so forth, and the classification is entered on the census lists, abstracts of which are eventually sent to the mobilization section of the General Staff. The cost of the census is about £25,000 yearly.

On mobilization a military commission selects the horses required to fill the quota allotted to each commune, and payment is made in accordance with the classification of the animal and the price for each class fixed in the budget of the year.

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THE YEOMANRY WITH CAVALRY CORPS.

By THE SUB-EDITOR FOR YEOMANRY.

THE records of the five Yeomanry regiments, which were selected to serve with the Cavalry Corps in France, will always take a prominent part in all narratives, written or told, which contain accounts of the important work which was carried out by the Cavalry generally during the Great War.

The regiments which bear this distinction, given in their order of precedence are:

The Leicestershire Yeomanry (Prince Albert's Own).
The North Somerset Yeomanry.
The Queen's Own Oxfordshire Hussars.
The Bedfordshire Yeomanry.
The Essex Yeomanry.

The Oxfordshire Hussars were the first to receive orders to hold themselves in readiness to proceed overseas, and the regiment sailed at noon on September 20th, 1914.

Lieut.-Colonel Arthur Dugdale commanded the regiment at the time, and he continued in command throughout the War, a distinction which was shared by no other commanding officer of any of the other four regiments of Yeomanry in Cavalry Corps.

Major the Honourable Eustace T. W. Fiennes was second in command. Major J. W. Scott was in command of 'A' Squadron, Major C. R. I. Nicholl 'C' Squadron, Major J. Spencer Churchill 'D' Squadron, and Captain Guy Bonham Carter, 19th Hussars, was Adjutant.

The regiment disembarked at Dunkerque, on September 22, where

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they remained until October 3, on which date they took up a line to cover the detrainment of French Cavalry at Hazebrouck. During this period the regiment was under the orders of the Admiralty, having been the Divisional Cavalry for the Naval Division; but on October 30 they were ordered to report to G.O.C. 1st Cavalry Division at Neuve Eglise, and from that date until November 11 they remained under the orders of the G.O.C. 2nd Cavalry Brigade, and were in action behind the Messines-Wytchaete ridge, and suffered casualties whilst falling back to the high ground above Wulverghem, Major Brian Molloy, commanding 'D' Squadron, being killed, which squadron he had taken over from Major Churchill, who had received a staff appointment.

The regiment joined the 4th Cavalry Brigade, 2nd Cavalry Division, on November 11, in the place of the composite regiment of the Household Cavalry; the personnel of which had been returned to their own regiments, which had by now arrived overseas, forming part of the 7th and 8th Cavalry Brigades.

In the meanwhile both the Leicestershire and North Somerset Yeomanry had arrived in France, having disembarked at Havre on November 3. These two regiments proceeded by train to St. Omer and were billeted at Esquerdes until November 11, when they were ordered to march to Ypres and join the 7th and 6th Cavalry Brigades respectively.

The 7th Cavalry Brigade was at that time commanded by Brig.-General Kavanagh, who formerly was Adjutant to the Leicestershire Yeomanry and an old friend in consequence.

The Leicestershire Yeomanry when it landed was commanded by Lieut.-Colonel the Hon. P. C. Evans-Freke, with Major Abbot Robinson as second in command. The squadron leaders were: Major W. F. Ricardo, Major W. F. Martin and Major W. Byron, with Captain J. Bailward, 19th Hussars, as Adjutant.

The North Somerset Yeomanry was commanded by Lieut.-Colonel G. C. Glyn, and the following were the squadron leaders: Major G. Lubbock 'A' Squadron, Major H. A. Gibbs 'B' Squadron, Major H. G. Spencer 'C' Squadron, and Captain S. G. Bates, 7th Hussars, was Adjutant.

All of these three regiments took part in the first battle of Ypres,

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and all distinguished themselves, as did all other regiments of the Cavalry. The Oxfordshire Hussars were in the trenches near Wulverghem and Kemmel until November 22nd, they relieved the French at the latter place. The Leicestershire and North Somerset were at Zillebeke and repulsed at least three determined attacks at that place.

Much suffering from cold was experienced during this period on account of the men having nothing except the clothes they stood up in, having left England with no extra kit whatever.

The Essex Yeomanry landed at Havre on December 1, and proceeded almost at once to billets at Wardrecques, where they remained for about a week, and then to Sec Bois, near Hazebrouck, where they joined the 8th Cavalry Brigade.

Lieut.-Colonel E. Deacon commanded the Essex Yeomanry, with Major F. H. D. C. Whitmore second in command.

Major E. Hill commanded 'A' Squadron, Major G. Gold ' B ' Squadron, Major A. Roddick ' C ' Squadron. Major A. Buxton came out as a supernumerary Major, and Captain A. Steele, 4th Hussars, as Adjutant.

Immediately following the first battle of Ypres, the Yeomanry regiments were distributed as follows:

The Leicestershire with the 1st and 2nd Life Guards, forming the 7th Brigade.

The North Somerset with the 1st Royal Dragoons and 3rd Dragoon Guards, forming the 6th Brigade.

The Oxfordshire with the 3rd Hussars and the 6th Dragoon Guards, forming the 4th Brigade

The Essex with the Royal Horse Guards and the 10th Hussars, forming the 8th Brigade.

It was not long before the Leicestershire Yeomanry were able to produce a pack of foxhounds, four and a half couple were sent to them from the Quorn, Cottesmore and Lord Harrington's, and the regiment hunted hares and sometimes a drag over the country about Cassel.

On Boxing Day, 1914, quite a large field assembled, including several French officers, who rode well to hounds and thoroughly enjoyed themselves.

The Cavalry took over the trenches south-east of Ypres from the

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French in February, 1915, and this was the first occasion when the Essex Yeomanry came into action and suffered casualties.

The first German gas attack, towards the end of April, brought the Cavalry back to this area, and from that time onwards, until the memorable May 13, all regiments were kept engaged in preparing defences near and about Ypres.

The 3rd Cavalry Division went into huts at Brielen on May 9, and on the 12th the Leicestershire Yeomanry took over the trenches near Bellewarde Farm from the Royal Fusiliers. The North Somerset Yeomanry went into the line north of Bellewarde Lake with the 3rd Dragoon Guards on their left and the Royals in support. The Essex Yeomanry were detailed by the 8th Brigade to dig a communication trench behind the 6th Brigade up to the trench occupied by the 3rd Dragoon Guards; some casualties occurred during that night.

The position of the Leicestershire Yeomanry at midnight May 12-13 was 700 yards west of the road which connects the Ypres—Zonnebeke with the Ypres—Menin road; their extreme right resting on the railway running north east from Ypres, their front extended to the farm about 300 yards north-north-west of the railway.

The trenches were bad but were somewhat improved during the night.

Heavy shell fire commenced soon after 3.30 a.m., and continued incessantly until about 6 a.m., when the enemy climbed from their trenches with the intention of commencing their attack. The accurate and heavy rifle fire of the 7th Brigade drove the enemy back under cover of their trenches.

A second and more violent bombardment immediately followed and was kept up till 7.30 a.m. The casualties incurred, to both the Leicestershire and North Somerset Yeomanry were very heavy, as was the case with the other regiments of the 6th and 7th Brigades.

At 7.30 a.m., the enemy again attacked in force and occupied the advanced trenches on the left flank of the Leicestershire Yeomanry, which resulted in their gaining part of the trenches occupied by Major Liebert's squadron, in consequence the remains of this squadron were forced to retire along the trench and join Major Martin's squadron.

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Major Martin built barricades of sandbags across the trench and by this means held the enemy, who were advancing in large numbers, for some considerable time.

Major Martin, Major Liebert, Lieut. C. Peake, and Second Lieut. T. Brooks were all killed, and the casualties were so heavy that Lieut. Fielding Johnson, the only surviving officer, decided to withdraw along the trench, cross the railway and join the 3rd Dragoon Guards. He had the greatest difficulty in doing this, but by building a sandbag parapet across the railway a crossing was effected. Lieut. Johnson was then able to join the 3rd Dragoon Guards with Squadron Sergt.-Major Swain and fourteen other ranks, the sole survivors of the two squadrons of the Leicestershire Yeomanry who had occupied the advanced trenches.

Lieut.-Colonel the Hon. P. C. Evans-Freke was killed whilst returning from personally establishing a small advanced post at a building about 150 yards in front of the support trenches.

Major W. Ricardo held on gallantly to the support position, although wounded on four different occasions.

The North Somerset on the right of the 7th Brigade were also magnificent, and, although their casualties amounted to 116, they were able to hold their ground. They occupied the front line with the 3rd Dragoon Guards, whilst the 1st Royal Dragoons were in support.

A counter attack was organized to take place at 2.15 p.m. by the 8th Cavalry Brigade, and it was during this counter attack that the Essex Yeomanry distinguished themselves as much in the 8th Brigade as did the Leicestershire and North Somerset in the 7th and 6th Brigades respectively.

The Essex Yeomanry attacked on the right of the 10th Royal Hussars, moving forward as if on parade right across the open and bullet-swept waste—casualties ever thinning the line of gallant Yeomen; their commanding officer, Lieut.-Colonel E. Deacon, at the head of his regiment, was killed, also Major A. Roddick, commanding 'C' Squadron. Nothing daunted, the gallant regiment carried on, and, having gained the improvised trench hastily dug by the enemy, they held on. Captain E. A. Ruggles-Brise, with Lieut. R. A. Thomson and a few men, with conspicuous

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ability occupied and held some ruins which continuously attracted the fire of the enemy. The shelling increased to such an extent that the casualties in the 8th Brigade became very severe, Lieuts. G. P. N. Reid, A. G. Swire, and G. S. Johnston, Essex Yeomanry, were killed, and many other officers wounded; the total casualties in the Essex Yeomanry alone were ten officers and 151 other ranks.

At about 6 p.m. the Essex Yeomanry received orders to concentrate at a house near the G.H.Q. line on the main road near Potijze Chateau.

The three Yeomanry regiments in the 3rd Cavalry Division bore their share on that memorable day, their casualties amounting to no less a figure than 465, including two commanding officers.

The Oxfordshire Hussars arrived at Vlamertinghe on May 14 and the 4th Brigade went into the trenches in front of Potijze in the evening, remaining in the neighbourhood of Hooge until May 30, and during this period their Adjutant, Captain Bonham Carter, was killed.

On June 8, 1915, the Bedfordshire Yeomanry arrived in France, commanded by Lieut.-Colonel the Hon. S. C. Peel, with Major S. Green as second in command. The three squadron leaders being Major A. C. S. Benning, commanding 'A' Squadron, Major W. Selby-Lowndes, commanding 'C' Squadron, and Major J. B. Walker, commanding 'D' Squadron, with Captain G. C. M. Tyrrell, 5th Lancers, as Adjutant.

This regiment completed the 9th Cavalry Brigade, the other regiments being the 15th Hussars and the 19th Hussars.

With the introduction of this regiment the Cavalry Corps was complete, and the composition of the brigades remained unaltered until the Royal Horse Guards changed places with the Leicestershire Yeomanry in the autumn of 1917.

After the second battle of Ypres the Cavalry went into back areas to refit and much training in both Cavalry and trench warfare was carried out.

The next occasion when the Yeomanry took a prominent part in active operations was at Loos, when the 8th Brigade relieved the 6th Brigade at the Double Pylon on September 27. The Essex Yeomanry, being under continuous shell and rifle fire, suffering many casualties until they were relieved by the 9th Liverpool on the night of 28–29.

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The occupation of the trenches near Vermelles at the Hohenzollern Redoubt in January and February, 1916, added more laurels to the achievements of the regiments under review. After the battles of the Somme, in which the Cavalry took but little part, we come to the defence of Monchy-le-Preux during the battle of Arras on April 11, 1917, when the 3rd Cavalry Division occupied and held that place with conspicuous gallantry against overwhelming odds.

The North Somerset and Essex Yeomanry regiments stood the test of endurance and fulfilled all the traditions of Cavalry regiments to such an extent on that occasion that no praise can be too great for officers and other ranks for their determination and devotion to duty under very trying circumstances.

The leading regiment of the Division was the Essex Yeomanry. This regiment, with the 10th Royal Hussars immediately behind it, came in for a regular hurricane of shell and machine gun fire in their attempt to clear Monchy and capture the ground east of that place. A barrage of such intensity was put down by the enemy that it looked impenetrable. The casualties in the 8th Brigade were very heavy and the majority of the horses were killed, or wounded to such an extent that they had to be destroyed. No sooner than the machine guns of the 8th Machine Gun Squadron were put in position, they were destroyed. Corporal Mugford, of this squadron, formerly Essex Yeomanry, gallantly handled his gun and kept it in action after he himself had both his legs broken; for his gallantry and self-sacrifice he well earned and received his Victoria Cross. All that day the 10th Royal Hussars and the Essex Yeomanry held on to the position gained, supported by the 1st Royal Dragoons, 3rd Dragoon Guards, and the North Somerset Yeomanry on their right. The casualties of the 10th Royal Hussars and the Essex Yeomanry alone on that eventful day amounted to no fewer than twenty-two officers and over 300 other ranks.

All ranks of the Essex Yeomanry were devoted to their leader and brigade commander, General C. Bulkeley Johnson, who was killed on that day. He was respected and admired by all and his memory will remain for ever.

During the summer months following the battle of Arras the Cavalry

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held the trenches in front of Epehy, including the 'Bird Cage' and Gillemont Farm. The Oxfordshire Hussars were in front of the latter place when, after a short heavy Artillery bombardment on May 20, the enemy attacked the farm, but were repulsed with heavy losses. The regiment, however, suffered severe casualties during the attack, Major V. Fleming and Lieut. F. Silvertop both being killed.

During this period the Leicestershire, North Somerset, and Essex were holding the trenches just north of Gillemont Farm, occupying the famous 'Bird Cage,' and it was here that the Leicestershire Yeomanry lost Lieut. P. Toulmin killed and many other ranks killed and wounded on the occasion of an enemy raid on June 22. This raid being in retaliation of a raid which had been carried out at the same place by the 8th Brigade a week previous.

To the great regret of all in the Bedfordshire Yeomanry, Lieut.-Colonel the Hon. Sidney Peel was called home, about the time of the Cambrai battle, to take up an important financial post under the Government. He was succeeded by Major Walker.

After the initial attack had been held up, the Bedfordshire furnished a strong dismounted party, and acting on the left of the 19th Hussars west of Bourlon Wood, acquitted themselves most gallantly, a number of officers and men being wounded. After the battle of Cambrai the regiment returned to the devastated area at Le Mesnil, near Peronne. On arrival in this area the erection of stables and huts was found to have been hardly commenced, and the knowledge of the men in this regiment in the art of carpentering was of great service, with the result that in an incredibly short space of time the officers, men and horses were better housed than any other regiment of the brigade.

During the latter part of 1917, and the commencement of 1918, much work was put into the front line near Vadencourt, Le-Verguier and Villeret. About the new year, 1918, when the 9th Brigade relieved the 8th Brigade at Vadencourt, the Bedfordshire Yeomanry unfortunately suffered many casualties during a troop parade, a shell falling into the middle of the men on parade.

The redistribution of Cavalry regiments in Cavalry Corps during the commencement of March, 1918, was the result of the Indian Cavalry

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leaving the Cavalry Corps, the retention of the Canadian Cavalry Brigade, and the necessity of reducing the strength of the corps. This combination brought with it the breaking up of the Leicestershire, North Somerset, Bedfordshire and Essex Yeomanry regiments. The Oxfordshire Hussars being the only Yeomanry regiment retained in Cavalry Corps—orders were received that the above four regiments were to be converted into Cyclist companies.

The lamentations over this decision cannot be exaggerated, and determined efforts were brought about in order to keep the regiments intact, and to request that they might become Machine Gun Battalions instead of Cyclist companies, and thus be able to retain their personnel intact.

A conference was forthwith arranged to take place in London, which included representatives from the County Territorial Force Associations concerned, a deputation was introduced by the Duke of Rutland and received by Lord Derby, who agreed to the proposal, and arrangements were already being carried out to the effect that the Leicestershire and North Somerset were to form one battalion, and the Bedfordshire and Essex another, when the great German attack, which commenced on March 21, showed the necessity of retaining the above-named regiments as Cavalry. They were accordingly refitted as Cavalry, and on March 28 the Bedfordshire and Essex Yeomanry were holding the line in front of Villers-Bretonneux, with the 1st Cavalry Division. No praise can be too great for the manner in which these two regiments held their positions during those anxious days at the end of March, 1918.

It was on April 4, that having regard to the heavy casualties incurred by the Cavalry, it was decided to reinforce the various Cavalry regiments by drafts from the Leicestershire, North Somerset, Bedfordshire and Essex Yeomanry, and it is safe to say that no reinforcements were ever more welcome to regular Cavalry regiments than these officers and other ranks.

In the meantime the Oxfordshire Hussars were engaged in continuous fighting, and at one time had no fewer than four distinct parties operating at different points. On March 28 they made a long march to assist the French in front of Montdidier.

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On April 1, the Regimental Dismounted Party, under the command of Major A. G. Child-Villiers, counter attacked Rifle Wood, south-east of Hangard, which had been captured by the enemy on the evening of the 31st. The attack was brilliantly successful, in spite of the wood being held by a vastly superior force, all the objectives were gained and held.

The Oxfordshire Hussars were pretty well continuously in action from August 8, the commencement of our great offensive, until the armistice, on November 11, 1918.

At the conclusion of the first phase of our attack, towards the end of August, this regiment was detailed for duty with the 6th Corps, and they served with that Corps until the armistice, except for a short period in September, when one squadron was detached for duty with the 17th Corps.

The personnel of the other Yeomanry regiments distinguished themselves no less with their new comrades than they did with their own regiments. The non-commissioned officers filled the vacancies caused by the heavy casualties inflicted in Cavalry Corps during the last days in March and commencement of April, 1918.

It was not long before the beneficial effect of this blending of the two branches of the Cavalry service told its own tale; commanding officers were unanimous in the praise of the quality of their welcome reinforcements, and the great British offensive, which began on August 8, in which the Cavalry took so prominent a part, brought many of these brave Yeomen to the notice of their new commanding officers, and the number of honours they received whilst being attached to the regular Cavalry regiments is sufficient assurance of the appreciation of their services.

It is not easy to realise the feelings of these gallant yeomen, now that their conversion into other arms is contemplated. The Leicestershire Yeomanry alone is the fortunate regiment which may retain its position. The other four regiments are glad to feel that at least one of their number may be able to benefit by the knowledge acquired by four years' active service.

It is certain, however, that all regiments of Yeomanry will be true to their tradition, and will make the best of whatever task is put upon them to carry out.

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It was in this spirit that the information was received at the Conferences held at the War Office on February 4 and February 13. The discussion took the form of how best to carry out the new provisions.

The information, although unexpected, came as a profound sentence; nevertheless, it was accepted, amongst other considerations, as the inevitable result of the searching enquiry into economy.

At the moment of writing the future of Yeomanry regiments is uncertain; all the arguments in favour of their continuance have been brought forward.

One of the many substantial losses which the country may sustain has perhaps not been sufficiently realised.

It is admitted that the country, in the event of the proposal being carried out, will be deprived of the services of the class which hitherto has joined the Yeomanry. It is also admitted that this is the sort of man who possesses the best qualifications of a soldier in action.

But has it been sufficiently recognised that it was from the ranks of the Yeomanry regiments that an almost inexhaustible supply of officers had been obtained for the Regular Army in the late War?

As an officers' training corps it is difficult to conceive a more attractive, effective, or economical source from which to draw efficient officers to replace casualties in our armies in the field.

Looking back at the shortcomings, if there be any, and at the virtues, of which there are many, in Yeomanry regiments and their organisation as part of the fighting machine as employed in the recent War, one is naturally attracted by the stimulating presence of *esprit de corps*; there is abundant evidence of this being an enormous asset to this branch of the Service.

Together with this splendid qualification there is also the lack of crime; this has been conclusively emphasised by commanding officers and by all brigade commanders, and it can be safely said that they are unanimous in their praise for the regiments concerned in these respects.

Each of the commanding officers who were brought in from the regular Cavalry to command Yeomanry regiments, namely: Lieut.-Colonel B. Fisher, 17th Lancers, and Lieut.-Colonel H. Combe, 3rd

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Hussars, both of whom commanded the Leicestershire Yeomanry during the War; Lieut.-Colonel G. Ing, 2nd Dragoon Guards, who succeeded Lieut.-Colonel Backhouse in command of the North Somerset; and Lieut.-Colonel H. F. Wickham, King's Dragoon Guards, who temporarily commanded the Essex Yeomanry from May, 1915, after Colonel Deacon was killed, until September, 1915, when Colonel Whitmore returned to command the regiment, agree that the absence of crime of any sort showed in itself the sense of self-respect which could not be surpassed by any branch in the Service of the Regular Army; and whatever qualifications the Yeomanry lacked, the absence of that qualification was more than made up by the presence of unlimited *esprit de corps* and 'lack of crime.'

It may perhaps be truthfully said that in some cases there was a lack of co-ordination between the 1st line regiment at the front and the 2nd and 3rd line regiments at home.

The existing organisation did not provide for a continuity of the supply of officers, N.C.O.'s and men as might have been expected, when three lines of one regiment existed as a county contribution. Too much depended on the personal feelings of the commanding officers at home, no doubt, by the pressure put upon them by their superior officers, who were only too anxious to maintain the best possible units under their command in the United Kingdom. The inevitable result of this combination was, in some cases, to hold back the supply of those efficient reinforcements, both as regards officers and other ranks, which would otherwise have filled vacancies caused by casualties in the regiments at the front; and it was in many cases that these vacancies had to be filled by introductions from other sources.

But even with this disjointed supply of territorial reinforcements, the *esprit de corps* still prevailed, and there was not a man who was not proud of serving with the regiment to which he had been ordered to join.

The fact remains, and very prominently too, that whatever were the shortcomings, the virtues were, by a vast majority, in predominance, and the considered evidence of all divisional and brigade commanders was to the effect that all ranks of the Yeomanry regiments were splendid.

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TABLE SHOWING THE STRENGTH OF THE HOUSEHOLD CAVALRY BY MONTHS SINCE AUGUST, 1914.

Date.	Officers.	Other ranks.	Total.
1914—August	80	1,226	1,306
September	102	1,989	2,091
October	108	3,258	3,366
November	120	3,815	3,935
December	132	4,808	4,940
1915—January	151	4,838	4,989
February	164	4,775	4,939
March	168	4,721	4,889
April	174	4,708	4,882
May	186	4,658	4,844
June	160	4,636	4,796
July	180	4,688	4,868
August	179	4,614	4,793
September	179	4,651	4,830
October	171	4,689	4,860
November	177	4,700	4,877
December	178	5,058	5,236
1916—January	175	5,045	5,240
February	172	5,061	5,233
March	179	5,058	5,237
April	180	5,102	5,282
May	194	5,128	5,322
June	190	5,220	5,410
July	202	5,204	5,406
August	201	5,203	5,404
September	200	5,202	5,402
October	211	5,199	5,410
November	208	5,219	5,427
December	234	5,853	6,087
1917—January	244	6,172	6,416
February	248	6,421	6,669
March	251	6,479	6,730
April	270	6,418	6,688
May	268	6,645	6,913
June	257	6,922	7,179
July	277	7,115	7,392
August	270	7,286	7,556
September	281	7,337	7,618
October	289	7,306	7,595
November	278	7,204	7,482
December	291	6,999	7,290
1918—January	283	6,526	6,809
February	283	5,907	6,190
March	259	5,686	5,945
April	265	4,689	4,954
May	241	4,432	4,673
June	230	3,523	3,753
July	105	1,283	1,388
August	109	1,324	1,433
September	95	1,320	1,415
October	96	1,283	1,379
November	83	1,173	1,256
December	80	1,065	1,145
1919—January	82	1,109	1,191
February	87	880	967
March	83	969	1,052
April	94	1,565	1,659
May	94	1,559	1,653
June	85	1,542	1,627
July	84	1,537	1,621
August	85	1,548	1,633
September	84	1,528	1,612
October	90	1,391	1,481
November	86	1,375	1,461
December	87	1,324	1,411

Average monthly strength up to December, 1918—4,808 all ranks.

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CHART SHOWING GROWTH OF THE HOUSEHOLD CAVALRY SINCE AUGUST, 1914.

(X) Transfers took place to Guards Machine Gun Regiment.

(Y) Re-transfers from Guards Machine Gun Regiment.

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TABLE SHOWING THE STRENGTH OF THE BRITISH CAVALRY AND YEOMANRY BY MONTHS SINCE AUGUST, 1914.

Date.	Cavalry.		Yeomanry.		Total.
	Officers.	Other ranks.	Officers.	Other ranks.	
1914—August	796	19,253	1,228	23,913	45,190
September	1,313	34,768	1,477	24,188	61,746
October	1,697	52,588	1,477	33,617	89,379
November	1,738	51,912	1,719	43,758	99,127
December	1,737	51,187	2,185	51,099	106,208
1915—January	1,864	51,471	2,314	52,197	107,846
February	1,816	52,260	2,419	54,332	110,827
March	1,913	52,244	2,529	54,687	111,373
April	1,875	51,765	2,718	53,689	110,047
May	1,835	50,985	2,874	58,804	114,498
June	1,710	50,008	3,068	61,709	116,495
July	1,680	41,057	3,141	64,653	110,531
August	1,712	40,208	3,256	67,032	112,208
September	1,735	40,157	3,300	67,924	113,116
October	1,751	39,851	3,347	70,411	115,360
November	1,741	39,600	3,554	75,363	120,258
December	1,726	40,000	3,546	81,550	126,822
1916—January	1,698	40,084	3,627	80,976	126,385
February	1,630	40,957	3,789	82,052	128,428
March	1,601	42,232	3,829	78,960	126,622
April	1,745	42,645	4,056	83,689	132,135
May	1,739	42,568	4,035	84,527	132,869
June	1,683	42,750	3,864	84,955	133,252
July	1,703	43,057	3,887	86,399	135,046
August	1,633	42,491	4,207	84,148	132,479
September	1,684	43,298	4,194	83,003	132,179
October	1,666	43,374	3,954	75,906	124,900
November	1,640	43,401	3,657	77,643	126,341
December	1,648	42,893	3,461	72,238	120,240
1917—January	1,617	38,746	3,344	64,546	108,253
February	1,808	38,790	2,726	61,217	104,541
March	1,907	43,016	2,378	52,014	99,315
April	2,008	45,132	2,442	57,748	107,330
May	1,933	47,003	2,408	53,627	104,971
June	2,109	48,892	2,584	54,650	108,235
July	2,178	49,627	2,475	51,793	106,073
August	2,247	45,690	2,351	51,713	102,001
September	2,196	43,374	2,323	49,490	97,383
October	2,353	43,921	2,099	48,389	96,762
November*	4,435	88,413	—	—	92,848
December	4,373	86,185	—	—	90,558
1918—January	4,120	82,786	—	—	86,906
February	3,986	79,750	—	—	83,736
March	3,922	79,207	—	—	83,129
April	3,926	79,378	—	—	83,304
May	3,921	86,332	—	—	90,253
June	4,010	87,591	—	—	91,601
July	4,009	86,314	—	—	90,323
August	3,898	80,543	—	—	84,441
September	3,750	75,428	—	—	79,178
October	3,854	72,842	—	—	76,696
November	3,681	70,405	—	—	74,086
December	3,510	69,177	—	—	72,687
1919—January	3,306	65,973	—	—	69,279
February	2,954	61,971	—	—	64,925
March	2,486	50,624	—	—	53,110
April	2,127	40,955	—	—	43,082
May	1,826	32,600	—	—	34,426
June	1,673	28,271	—	—	29,944
July	1,448	27,255	—	—	28,703
August	1,247	26,592	—	—	27,839
September	1,054	27,067	—	—	28,181
October	943	26,283	—	—	27,226
November	891	24,131	—	—	25,022
December	855	20,858	—	—	21,713

* On and after this date all Yeomanry units were included with Cavalry.

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Average monthly strength up to December, 1918—104,463 all ranks.

(X) Transfers to Tanks and Infantry. (Y) Transfers to Machine Gun Corps and conversion of dismounted Yeomanry into Infantry Battalions, i.e. 74th Division.

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THE INFLUENCE OF TANKS ON CAVALRY TACTICS

*(A Study in the Evolution of Mobility in War).**

By BREVET COLONEL J. F. C. FULLER, D.S.O.,
Oxfordshire and Buckinghamshire Light Infantry.

INTRODUCTION.

THE object of this study is an attempt to arrive at some common basis of understanding on the subject of Tank and Cavalry co-operation and the part that these two arms may play should they be called upon to fight side by side within the next few years.

The future rests on the present and the present on the past, consequently we should not be deluded into solely following the narrow and still obscure path of recent events, but, instead, we should seek to discover the essential values of Cavalry and then see how far it is possible to fit these to the conditions of modern warfare.

The subject is more than one of ordinary interest because, at the present moment, there is a school of thought, unthoughtful in the main, which considers that the Cavalry 'idea' is part of an obsolete doctrine.

* Passed for publication in the CAVALRY JOURNAL, the views expressed are not necessarily those of the General Staff. The Study will be of considerable interest to our readers.

[A series of articles on this subject will appear during the issues of 1920. Colonel Fuller was G.S.O. of the Tank Corps in France, is a deep student of military history and a rare thinker. He contributed largely to the success of the Tank Corps in the recent war by his clear vision of the possibilities of the youngest branch of the Service.—A.L.]

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This school bases its assertions on certain material facts and conditions which, though important enough in themselves, are nevertheless transient in nature; for it is almost an axiom that, though a war seldom if ever repeats itself in detail, throughout the course of military history may be traced certain tactical cycles of events which, like comets, travel along fixed paths and reappear at stated intervals, the periods between these being measured not in days or years, but according to the evolution of weapons, means of movement and protection. We, therefore, must study these elements of war and the combinations between them which so largely go to build up tactics, before we can speculate as to the present and future values of Cavalry.

In order clearly to illustrate this progress it is proposed briefly to look back into history and see what Cavalry has accomplished in the past, and then, when its limitations have become apparent, to trace, as far as present information enables, its accomplishments in the recent war. Parallel with this, it is proposed to trace the evolution of the Tank, which, as it will be shown, is in 'idea' no very novel machine, and then, when its limitations and possibilities have been made clear, to see how far it may be possible to combine these two arms in action, and how far mechanically moved weapons can re-establish the Cavalry 'idea' which carries with it the decision of the battle.

I.—The Organisation of Tactics.

In analysing tactics, or the art of warfare, the military student usually falls into the profound error of visualising the battle as 'a thing in itself,' and of building on this foundation an edifice of complex theories. Surely such a course is wrong, for the object of a tactical analysis is to arrive at the simple components of the fight and not the complex actions, that series of fights which is called the battle. Once these components, or elements, have been discovered synthetically they may be combined until out of these combinations the most intricate of organisms arise. In the following brief analysis it is proposed to consider the simple factors alone, starting with man, who is the originator of all human strife.

In man himself, even if naked and unarmed, are to be found three powers which go to build up the combat, however simple and however complex. These three powers are hitting, guarding and moving; they represent the physical side of war, and combined they form the battle irrespectively as to whether hitting is attained by fists or machine guns, guarding by raising an arm or surrounding men with armour, and movement whether legs or motor cars are used.

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The battle itself can conveniently be divided into three periods—the assembly, the approach, and the attack. The first presupposes the tactical concentration of troops in the fighting area, that is the ground on and around the prospective battlefield; the second, the advance towards the enemy, the governing principle here being that of security until hitting range or position has been attained; and the third, the attack which aims at the destruction of the enemy and is based on the principle of the offensive.

In its turn the attack may be divided into three acts—the act of demoralisation, the act of decision, and the act of annihilation. On the modern battlefield these acts are represented by the fire fight, the assault, and the pursuit; and the pursuit requires fresh troops and mobile ones to catch up with the enemy who is concentrating on flight.

The tactical object throughout the whole of this engagement is an exceedingly simple one, so simple that it has usually been overlooked, namely: 'the giving of blows without receiving them.' It forms the mainspring of all tactical organisation and from it directly arise the two fundamental factors of war—the offensive and the defensive, which cannot be separated any more than can the positive and negative poles of a magnet.

From these two factors spring the two essentials of all tactical organisation—mobility and stability; the objective of the first being a development of weapon power in order to destroy the enemy, and of the second a development of weapon power in order to sustain or frustrate this act of destruction.

When, too, weapons are used, namely missile and shock weapons, which has usually been the case, these two essentials give rise to an all-important tactical rule:—'The duty of all missile weapons is to facilitate or ward off the shock.'

In other words, the fire fight prepares or frustrates the assault or charge.

We shall shortly see what a stupendous influence this rule has exerted in the past, is exerting in the present, and is still likely to exert in the future on Cavalry warfare.

II.—The First Cycle in Cavalry Tactics.

A Cavalry combat with the *arme blanche* is a very simple operation when compared to a fire fight, even if the missiles be but sling stones or arrows; and constituting as it does the simplest form of war, it is, consequently, the easiest accomplished when conditions render it possible, which it will be shown was with Cavalry actually the case for a period extending over no less than half the Christian era—1,000 years in all.

In order that the tactical cycles of events may be understood, it is necessary to go back to the dim periods of military history several centuries B.C.

In these distant ages it will be found that tactical organisation was based rather on the nature of the country than on any idea of weapon co-operation as contained in the 'tactical rule.' Thus in Sparta we find practically no Cavalry, whilst in Scythia mounted Bowmen alone exist, Infantry being unknown. Nevertheless, even from the earliest days the problem of tactical co-operation faced every great commander—'How was he to equip, arm, and manœuvre his

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forces so that they might become both mobile and stable?' This problem was completely solved by that greatest of all Cavalry soldiers—Alexander the Great, and for this to become apparent it is only necessary to consider his military organisation.

The backbone of his army was the phalanx or Infantry mass, and, armed with the sarissa, a pike twenty-one feet long, it could form an impenetrable hedge of spears to any Cavalry assault, though it offered a somewhat vulnerable target to Bowmen both mounted and on foot. To protect it from these, considerable numbers of light armed Infantry were attached to it, their duties being very similar to those of our own Light Infantry during the Peninsular War in Spain at the beginning of the last century.

To the immense power of stability which the organisation of the phalanx possessed, Alexander was one of the first among the ancients to grasp the fact that stability of organisation alone could seldom if ever follow up the act of decision by the act of annihilation. The phalanx could not pursue without breaking its formation, it was not armed for the pursuit, and in the pursuit the pursued almost invariably retires faster than the pursuer, if both be on foot or similarly mounted.

To render the act of annihilation possible, Alexander added to his phalanx considerable numbers of Cavalry, in the approximate proportion of one trooper to every six heavy foot soldiers. This Cavalry he organised in three forces—heavy and armoured Cavalry for the charge, Light Cavalry or Hussars for outpost work, and Dragoons who could fight on foot or on horseback. Besides these he held, usually under his own command, the 'Companion Cavalry'—a *corps d'elite*.

His Cavalry doctrine was profoundly simple—horse and rider combined were to be used as a 'projectile' against the enemy once his ranks were shaken, the object being *the annihilation of all resistance*.

His tactics were equally simple and astonishingly effective—advancing in parallel order to his enemy's front he would oblique his right by bringing it forward and, whilst his centre and left held the enemy to his ground, he would deliver a series of terrific blows at his opponent's centre or left, with a view to penetrate or envelop it. At the battle of Issus (333 B.C.) the Companion Cavalry decided the day, at Arbela (331 B.C.) it was again Cavalry which destroyed the enemy's resistance.

From the days of Alexander onwards, Cavalry, on account of its mobility, becomes the decisive arm. Hannibal's use of Cavalry was superb, as his victories at the battles of the Trebbia (218 B.C.) and Cannae (216 B.C.) testify.

The lack of good Cavalry in the Roman armies in these days proved their ruin and it was not until such a force had been raised and trained under that skilful General, Scipio Africanus, that the Carthaginians were eventually beaten at the battle of Iling (205 B.C.) and destroyed at that of Zama (202 B.C.), both of which battles form intensely interesting Cavalry studies.

During the days of Julius Cæsar the most serious defeat sustained by the Roman Army was that of Crassus at the hands of Surena, the Parthian General, whose

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entire force was composed of mounted Bowmen and heavy Cavalry. The Parthian victory was decisive; of the 40,000 Romans who crossed the Euphrates, 20,000 were killed and 10,000 made prisoners. The Parthian success had been due to the inability of the Romans to make use of the 'tactical rule,' their organisation did not enable them to ward off the shock, whilst that of the Parthians did permit of them delivering it, for in this battle their heavy Cavalry provided stability to their army, their mounted Bowmen being the mobile service.

From the battle of Pharsalia (48 B.C.) the legion learns for a space how to hold its own against the horsemen, then begins the general military decline; mercenaries flood its ranks, discipline is relaxed, pay is increased and armour is discarded because of its weight. Vegetius, who probably wrote in the days of Valentenian II., urges its restoration; he says, 'Those who find the old arms so burdensome must either receive wounds upon their naked bodies and die, or, what is worse still, run the risk of being made prisoners, or of betraying their country by flight. Thus, to avoid fatigue, they allow themselves to be butchered shamefully like cattle.'

From the first irruption of the Goths in the year 248, we find a steady increase in the Roman Cavalry to meet the rapidly moving Gothic horse and from the time of Constantine Cavalry compose the principal part of the Roman armies, but all in vain. In 410 Alaric and his hordes of horsemen sweep over Italy and enter the Imperial city. A few years later, Attila, King of the Huns, unites Germany and Scythia and with an army of 500,000 soldiers, mostly horsed, humiliates Rome. He is defeated by Actius at Chalons (451), the last victory of Imperial Rome in the west, and the dark ages descend over Europe and, as far as war is concerned, we enter the epoch of the iron clad Lancer.

In 378 the Gothic horse had annihilated the Emperor Valens and 40,000 men, mostly Infantry, at the battle of Adrianople, the Goths striking the right flanks of his army 'like a thunderbolt which strikes on a mountain top and dashes away all that stands in its path.' Fifty-two years later the decisive victory of Tricameron is won over the Vandals in Africa purely by Cavalry, and a few years later on Belisarius finds so little use for his Infantry that he mounts them to serve as Dragoons.

At the beginning of the Seventh Century armour becomes general amongst Cavalry, until in 814 we find a chronicler recording of Charlemagne and his men:

'Then appeared the iron king, crowned with his iron helm, with sleeves of iron mail on his arms, his broad breast protected by an iron byrnie, an iron lance in his left hand, his right hand free to grasp his unconquered sword. His thighs were guarded with iron mail, though other men are wont to leave them unprotected that they may spring the more lightly on their steeds. And his legs, like those of all his host, were protected by iron greaves. His shield was plain iron without device or colour. And round him and before him and behind him rode all his men, armed as nearly like him as they could fashion themselves; so iron filled the fields and the ways and the sun's rays were in every quarter reflected from iron. "Iron, iron everywhere," cried in their dismay the terrified citizens of Pavia.'

Cavalry was reaching its zenith, yet in this very act can be traced the causes of its decline. To the knight of the early Middle Ages stability was no longer afforded

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by the Infantry mass but by the armour he wore, his mobility being provided him by his horse. As long as he was not met by equally well mounted and armoured antagonists this unified combination of mobility and stability proved irresistible, but as soon as he was it became neutralised and with this neutralisation tactics as an art deteriorates until it practically ceases to exist during the later Middle Ages.

This self-contained stability of Cavalry is most noticeable at the time of the Crusades, during which, in spite of the low discipline of the Christian knights and their very rudimentary knowledge of tactics, their casualties are frequently remarkably small. Thus at the battle of Hazarth (1125) Baldwin's losses only total twenty-four men, whilst those of the Turks amount to 2,000, at Jaffa (1191) two Crusaders are killed on one side and 700 Turks on the other.

The Turks, being mounted and for the most part unarmoured, are extremely mobile, witness their tactics at Arsouf against Richard in 1191. In order to counter this mobility, which seriously affected the stability of the Crusading armies, it was found necessary to dismount certain numbers of the knights and form them up on foot as a base of operations from which the charge could be initiated and developed. Here we find the germs of a new Infantry, for this procedure was copied in Western Europe, where Infantry, except in swampy, mountainous and hilly country, had practically ceased to exist since the overthrow of the Roman Empire.

With the advent of plate armour in the Thirteenth Century mobility becomes sacrificed to protection and so does stability, for, though it is still possible to dismount the knight, so heavy has his armour become that when once dismounted he is useless through his inability to execute a normal approach; such frequently was the case with the French knights during the Hundred Years War.

At the battle of Tagliacozzo (1268) Conradin's Ghibelline knights are so heavily armoured that Charles of Anjou's Cavalry, after having exhausted them by repeated charges, rolls them out of their saddles by seizing them by their shoulders.

There were several reasons for this increase in the thickness of armour, the chief one being the progress in the construction of the bow and the crossbow. At the siege of Abergavenny, in 1182, it is recorded that the Welsh arrows could penetrate an oak door four inches thick; no chain mail could withstand such a blow, consequently plate armour was worn over the mail shirt.

As armour increases in weight we find natural obstacles playing a decisive part on the battlefield.

At Bannockburn (1314) Bruce takes up his position behind a stream and Edward II. knights get bogged just as Tanks became ditched 603 years later in Flanders.

When the ground cannot be crossed on horseback it has to be crossed on foot, and the knight losing his mobility loses half his tactical value, consequently, the defenders seek by every means to force him to dismount; one of these means being choice of ground and another archery, for horse armour never proved very satisfactory.

At Dupplin Muir (1332), Baliol and Beaumont do not beat the Earl of Mar

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by reckless charges, but by skilful weapon co-operation. The majority of their knights are dismounted and formed into a phalanx, the flanks of which are protected by archers, whilst only forty mounted knights are kept in reserve for the decision. The Earl of Mar charges right at the phalanx, which remains stable, his knights are immobilised by the archers on the flanks, and eventually annihilated by Baliol's mounted squadron.

The battle of Dupplin Muir is the birth of a new era in tactics—the tactics of the bow, pike and lance combined. It forms the mould in which all the English operations during the Hundred Years War were cast, a war which proved most disastrous to the gallant but insubordinate French chivalry, as Crecy (1346), Poictiers (1356), and Agincourt (1415) testify. At Crecy, the English lost two knights, one squire and forty men at arms, and a few dozen Welsh Infantry, the French losses being 1,542 knights and between 10,000 and 30,000 other ranks. The horse in this battle proved the weak link in the French Cavalry organisation, for of the next great engagement, the battle of Poictiers, we find John le Bel writing of the French knights 'Tous se combattoient a pyè, pour doubtance des archers qui tuoient leurs chevaulx, comme a la bataille de Crecy.'

From the battle of Poictiers onwards Cavalry falls into a rapid decline, the French knights learn nothing, and as the bow and pike destroy them a new weapon arises in the crude bombards of the Fourteenth Century, which through gunpowder are about to revolutionise the whole art of war, to reduce Cavalry to the position of the Scythians of the day of Alexander, and to advance Infantry to the position of importance that this arm held in the heyday of the Spartan phalanx.

At the battle of Formigny (1450), three small culverins throw the English archers into disorder; at Morat (1476), Charles the Bold of Burgundy is defeated by the Swiss, who make good use of 6,000 hand guns.

We have now completed the first cycle in the evolution of Cavalry, and it is interesting to recapitulate the salient features which characterise it.

Firstly, we see the Scythian bowmen, a cloud of horsemen who can annoy the stable forces of an army when at a distance, who can weaken its moral by threatening its rear, and cut off stragglers in a pursuit. Secondly, we see organised masses of Cavalry, well drilled and well armed, who can deliver the decisive blow and annihilate an army once its stability is lost. Such were the troopers of Alexander, Hannibal and Scipio Africanus. Thirdly, we see the Gothic horsemen who evolve into the completely armoured knights of the Middle Ages, and here Cavalry, as a distinct arm, reaches its zenith, and Infantry as such all but ceases to exist.

From the year 1500 onwards, as we shall next see, this cycle slowly starts revolving backwards, until from the armoured knight of the Fifteenth Century we return in many respects to the Scythian horseman of the Fifth Century B.C.

III.—The Second Cycle in Cavalry Tactics.

For a thousand years Cavalry has sought to solve the problem of mobility through direct protection by armour, and in the end it had failed to do so on

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account of the man himself not possessing the muscular endurance to carry it, and on account of the impossibility of completely equipping the horse in mail.

Gunpowder, little by little, relegated body armour to the parade ground, the tourney and the baronial hall. It might have done so much more speedily, but the spirit of chivalry was unprogressive, and the following extract, taken from a book written as late as the year 1626, testifies to this very clearly, and it is only one of many :—

' . . . and it is thought that the invention of cannon was found first at Nuremberg, for the ruin of man, being at first for a long time used for battering down walls and cities, and for counter-batteries, till at last they were used in the field to break the squadrons and battailes of foot and horse, some carrying pieces, called Spingards, of foure foote and half longe, that shot many bullets at once no greater than walnuts, which were carried in the fields on little chariots behinde the troopes, and how soone the trumpet did sounde, the enemy was thundered on, first with those as with showers of hailstones, so that the enemies were cruelly affrighted with them, men of valour being suddenly taken away, who before were wont to fight valiantly and long with the sword and launce, more for the honour of victory than for any desire of shedding of bloud ; but now, men are marterysed and cut downe, at more than half mile distance, by these furious and thundering engines of great cannon, that sometimes shoote fiery bullets able to burne whole cities, castles, houses or bridges, where they chance to light, and if they happen to light within walles, or amongst a briggad of foote or horse, as they did at Leipsigh, on the grave fon Torne his briggad, spoiled a number at once, as doubtlesse the devilish invention did within Walestine, his leaguer at this time.'

Mobility, no longer being possible through armour, is by degrees sought for through fire-power, the very cause of its obsolescence. In 1494, Charles VIII. of France enters Rome, and in the words of Machiavelli, ' he conquers Italy with a piece of chalk.' Arming a tenth of his Infantry with the escopette, a species of arquebus, and accompanied by 140 heavy cannon and a number of smaller pieces nothing can resist him, and all he had to do was to chalk off areas on the map to which he wished to go, and there he went.

A few years after the reign of Charles VIII., Machiavelli, a civilian, yet a military writer of profound tactical insight, produced his ' Treatise on the Art of War,' in which the true changes which the introduction of gun power was effecting were clearly discussed. Infantry, he lays down, is the real strength of an army ; of the use of Cavalry he writes as follows :—

' It is right, however, to have some Cavalry to support and assist Infantry, but not to look upon them as the main force of an army, and though they are highly necessary to reconnoitre, to scour roads, to make incursions and lay waste an enemy's country, to beat up their quarters, to keep them in continual alarm, and to cut off their convoys, yet in field battles, which commonly decide the fate of nations, and for which the armies are chiefly designed, they are fitter to pursue an enemy that is routed and flying than anything else.'

This was written in 1515, it took nearly 300 years before Machiavelli's foresight became generally recognised by soldiers.

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As armour grew lighter the knight began to take to the petronel, a type of hand cannon, in order to fire on Infantry in place of charging them. The Infantry arquebus, however, improved rapidly and with its improvement Cavalry became still more immobile and helpless. Then the petronel was replaced by the arquebus-à-rouet, and a little later on by the wheel-lock pistol, which was used by the German Cavalry at the battle of St. Quentin, in 1557.

The spirit of chivalry, however, struggled on, for it was an anachronism to expect a mounted man with a pistol, who offered a greater target than an infantryman, to compete against the latter's more accurate fire.

The lance now vanishes and attempts are made to stabilise and, consequently, mobilise Cavalry by intermingling with it Infantry units. At the battle of Pavia (1525) the Marquis of Pescara adopts these tactics and beats Francis I. This combination is, however, a clumsy one, for though, in a rudimentary manner, it linked shock to fire and so carried out the tactical rule, the mobility of the Cavalry was so limited by the pace of the Infantry that the charge had to be reduced to a walk.

Twenty-five years after Pavia the Marshal de Brissac mounts infantrymen on horseback and the era of the Dragoon, or mounted infantryman, begins, the horse is now only used as a means of approach.

Yet, in spite of all these changes, the ancient spirit of Cavalry survives, for, in 1586, we find Stowe relating of Sir William Russell: 'He with his cornet charged so terribly that when he had broke his lance, he with curtle-axe so played his part that the enemy reported him to be a devil and not a man, for when he saw six or seven of the enemy together, thither would he, and so behaved himself with his curtle-axe that he would separate their friendship.'

We now enter the Thirty Years War and once again witness a great change in Cavalry tactics; Cavalry mobility being sought for not through its own fire power but through the fire power of Infantry and Artillery. Gustavus Adolphus models his army on the Roman legion, he separates the pikemen from the musketeers, reduces their depth, introduces portable leathern guns, improves the arquebus, abolishes its rest and invents the cartridge. Supported by fire, his Cavalry ride forward, fire their pistols, and charge home with the sword.

At Lutzen (1632) his Cavalry plays a notable part. Gustavus is emulated by Pappenheim and Cromwell follows suit in England. Grantham (1643) is decided by the sword, so is Marston Moor (1644), and so is Naseby (1645). In France the reversion to the shock is no whit behind-hand; Turenne favours the *arme blanche* and at the battle of Zintzheim issues instructions to his Cavalry to use the sword alone; the impetuous Condé does likewise and so does Marshal Luxembourg at Leuze, in 1691. In Germany, however, Montecuculi still favours firearms for Cavalry; he considers the lance useless and looks upon the horses of his Dragoons solely as a means of approach.

This change is truly astonishing and cannot only be attributed to the genius of such great Cavalry leaders as Gustavus and Pappenheim. The underlying reason for it is probably to be found in the now universal adoption of the matchlock

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and the consequent reduction in the number of pikemen. The matchlock, it must be remembered, was still a very slow loading and unreliable weapon; it could not well be used in rainy weather and Infantry were apt to be surprised in a fog. It was on such occasions as these that Cavalry frequently came into their own right up to the days of the invention of the percussion cap, in 1807. A notable instance of this is the battle of Eylau, this very year.

During the Eighteenth Century the idea of the shock continues to grow. Marlborough uses Cavalry in mass, Blenheim (1704) is decided by Cavalry and so is Malplaquet (1708). In these battles are to be found the germ of the superb Cavalry actions of Zeithen and Seidlitz, which characterise the Seven Years War.

Charles XII. of Sweden carries the shock to the extreme; he prohibits the use of Cavalry armour, he races over Europe, rides to death two horses whilst reviewing a regiment and meets an impetuous end at Pultowa (1709). Marshal Saxe in a reasoned degree emulates him.

Under Frederick the Great, Cavalry once again reaches its zenith and out of twenty-two of his battles at least fifteen are won by the Cavalry arm working in close co-operation with gun and musket. In his regulations for Cavalry Frederick writes: 'They will move off at a fast trot and charge at the gallop, being careful to be always well closed together. His Majesty will guarantee that the enemy will be beaten every time they are charged in this way.' The exploits of Seidlitz and Zeithen proved that Frederick was not wrong. Rosbach (1757) was a Cavalry victory and so, in a lesser degree, was Zorndorf (1758).

The war of the American Independence provides no examples of outstanding Cavalry work and neither do the Revolutionary Wars, except for the brilliant charge of the 15th English Hussars at Villers-en-Couchée, when some 300 British and Austrian Dragoons charged and routed 10,000 French Infantry and Cavalry, driving them into Cambrai with a loss of 1,200 men.

We now arrive at a further change in Cavalry tactics, a slowing down of the shock until a hundred years later it becomes all but extinct. This change first becomes perceptible in Napoleon's campaign in Egypt, when the world-famed Mameluke Cavalry fail to make any real impression on his Infantry squares. At Mount Tabor (1799) 6,000 French Infantry under Kléber gain a decisive victory over 30,000 Turks and Mamelukes. Cavalry now enters the last lap of its second cycle.

Napoleon relies on all arms but particularly on fire and, in spite of the many brilliant Cavalry charges carried out under his command, his Cavalry are pre-eminently a strategic force for observation and protection and a tactical force for pursuit, and it is only after the enemy has been shattered by fire that the pursuit becomes possible, the most noted example being Murat's pursuit after Jena (1806). Against well trained and unbroken Infantry the Cavalry charge fails, witness the French charges at Quatre Bras and Waterloo (1815), but against a demoralised force it often still succeeds.

The Napoleonic wars are followed by forty years of the most profound military coma. In 1823 Captain John Norton, of the 34th English Regiment, invents the cylindro-conoidal shot. He is not encouraged; the Duke of Wellington considers

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that the Brown Bess cannot be improved upon, yet Norton's bullet is the greatest invention since that of the flint-lock. In 1853 Captain Minié, of the French Army, invents a similar projectile. Sir William Napier opposes its introduction; he considers that it will destroy the Infantry spirit by turning Infantry into 'long range assassins'!!! It is, however, adopted. The Minié rifle had a range of over 1,000 yards—the doom of the Cavalry charge is sealed.

The war in the Crimea teaches us nothing as regards Cavalry except its misuse and its gallantry. On its completion its usefulness has fallen into such low repute that suggestions are put forward to reduce it or to abolish it altogether, but the feudal spirit of chivalry is still strong and it survives all attacks.

In the next war, the Civil War in America, Cavalry becomes mounted Infantry pure and simple; charges are carried out, but with the revolver, and the Cavalry tactics approximate somewhat to those of the early Seventeenth Century. Morgan openly jeers at the sword: 'Here, boys,' he shouts, 'are those fools coming again with their sabres (Federal Cavalry); give it to them!' and the saddles are emptied. Morgan with his mounted riflemen, a force which never exceeded 4,000 all told during the Civil War, killed and wounded as many of the enemy and captured 15,000 of them!

The Federal sabres accomplished nothing, but the Dragoons much. Stuart waltzes round McClellan at Richmond and beats the Northerners at Brandy Station in 1863.

In spite of the fact that during four years of warfare, Morgan, Stuart, Mosley, Wilson, Grierson, and Sheridan proved the lance and the sabre to be as obsolete as the stone axe of neolithic man, the 1866 Austro-Prussian War sees 56,000 cavalrymen armed with these weapons and this in the face of the breech-loading needle gun. At Nachod there is a Cavalry skirmish, a little later Colonel Bredow charges an ammunition train, at Königgrätz the Austrians are decisively defeated, the Prussian Cavalry impetuously charge the retreating Infantry, 'these, though running, still maintained their formation, and turned when the horsemen came too close, to stand and deliver volleys, which drove them back with many a saddle emptied.'

In spite of Königgrätz the Franco-Prussian War witnesses 96,000 Cavalry take the field. The French have learnt nothing regarding Cavalry tactics since Waterloo and have forgotten everything regarding it prior to this date. The Germans are bold and pushful; they use their Cavalry strategically with great effect, covering their own movements and discovering those of the enemy. The charge almost ceases to exist. Margueritte fails, von Bredow succeeds, but at what cost; this is the last successful massed Cavalry charge of any size in history.

Sheridan, probably the greatest Cavalry soldier of the American Civil War, witnessed the charge of Margueritte's Chasseurs d'Afrique at Sedan. It was, in his opinion, a most skilful charge, nobly carried out, the ground was most suitable, the Prussian simply waited until the horsemen were 150 yards away and then mowed them down with volleys—it was not war, but cold-blooded assassination.

The second cycle in Cavalry tactics ends with the single shot breech-loader as the Infantry weapon; it ends by leaving Cavalry still a strategic arm of great

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importance but tactically, except as mounted infantrymen, useless. Fire-power has rendered impossible its tactical mobility in action, Cavalry can no longer charge home, it cannot carry bullet-proof armour, for it cannot increase its muscular endurance nor that of its horses. Save in skirmishes against each other there is no shock and thus, in spite of 2,400 years of war, Cavalry, in the last quarter of the Nineteenth Century, finds itself back to the year 329 B.C., when the Scythian horsemen surged round Alexander at the crossing of the Jaxertes but dared not approach the sarissas of his phalanx. Stability in the Cavalry arm has now completely disappeared and without defensive power Cavalry offensives become useless. Yet the spirit of chivalry lived through all opposition in spite of the cavalier offering no solution to the problem ' how to give blows without being exterminated.'

IV.—The Origins of the Tank.

A study of military history shows quite definitely that the act of annihilation not only requires fresh troops, but troops which are in nature more mobile than the ones to be destroyed.

This has always held good, even in the days prior to the use of Cavalry as the weapon of annihilation. Mobility does not only mean speed, but above all endurance, power to follow rapidly and power to overcome resistance, for it is the side which possesses the highest endurance which is the side which wins. Inversely the resistance offered by the pursued must be less than the endurance of the pursuers, otherwise the pursuit will be brought to a standstill.

In the earliest days of the recorded history of war we find chariots being used, not as military engines, but as means of transporting the combatants to the battle-field, much as omnibuses were used in the Great War of 1914-1918. Thus employed chariots economised the muscular energy of the fighters, for it must be remembered that in these days all actual fighting was carried out on foot, and usually it consisted in the hand-to-hand contest, frequently being decided by a duel between the chiefs of the opposing armies.

Homer, in the Iliad, speaking of Agamemnon, says :—' He left his steeds, indeed, and his brass variegated chariot, and these his servant Eurymedon, son of Ptolymeus, the son of Pirias, held apart panting. Him he strictly enjoined to keep them near him against the time when weariness should seize his limbs commanding over many.'

If the warrior were successful he would tie his dead antagonist to his chariot and return triumphant; if he were wounded, tired or outmatched he would retire to his chariot and so effect his escape.

In the Old Testament, we find constant mention of chariots of iron, that is armoured cars used as ' projectiles ' to break the enemy's stability. Such chariots were used in India and China since time immemorial, but west of the Indus, Cyrus seems to have been one of the first to armour the chariot and to place the driver, completely clothed in armour, in a fighting turret, and fix scythes to the hubs of the chariot wheels. These chariots were used in a very similar manner to the Tank of to-day, that is to say, in close co-operation with Infantry.

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The Britons used very similar vehicles, of which Cæsar relates: 'Thus these barbarians had the agility of Cavalry and the steadiness and firmness of Infantry.' —A high compliment to their tactical organisation.

The chariot, in spite of its mobility, was a vehicle of very pronounced limitations, firstly, it could only move over level ground, and secondly, the horse, in spite of its armour, was always very vulnerable, these limitations became more and more accentuated as progress was made in tactics and equipment, with the result that chariots fell into disuse, the shock and the pursuit being relegated to the Cavalry.

Coincident with the introduction of firearms on the battle-field do we find the re-introduction of the chariot, in order to enable protective armour to be carried, which would frustrate the penetrative power of the bullet. These chariots took the form of mobile fortresses, on similar lines as the Tank does to-day, in fact, in them must be sought the true origin of the Tank, for their motive power was internal and not external as in the case of the chariot.

In 1395, Conrad Kyeser invented a battle car which was moved by internal man-power; in 1420, Fontana invented another and a few years later, Archinger designed a mobile fortress, which would enclose no less than 100 men.

As man haulage was both wasteful and cumbersome, a little later on horses were placed inside these vehicles, and in Scotland two Acts of Parliament, dated 1456 and 1471 respectively, were passed concerning their use.

The substitution of horse-power for man-power was but a poor answer to the question of mobility, so we find, in 1472, Valturio suggesting that battle-cars should be driven by means of wind wheels, in other words, that muscular energy should be replaced by mechanically generated power.

During the period of the Rennaissance, numerous attempts are made to perfect the 'war chariot.' In 1482, Leonardo da Vinci writes: 'I am building secure and covered chariots, which are invulnerable, and when they advance with their guns into the midst of the foe, even the largest enemy masses must retreat, and behind them the Infantry can follow in safety and without opposition.'

The tactics he visualised were identical to those used at the battle of Cambrai in 1917.

In 1558, Holzschuher describes a battle-car preceded by Infantry and flanked by Cavalry, and a few years later, Simon Stevin invents a small battleship on wheels for the purposes of land fighting.

As regards these early forms of Tanks, there is to be found in the Bacon collection at Lambeth Palace an interesting document which describes one of these machines at the close of the Sixteenth Century:—

'Anno Domini 1596, the 7th of June, Secret Inventions profitable and necessary in these days for defence of this Island, and withstanding of strangers, enemies of God's truth and religion.

'The invention of a round chariot of metal made of the proof of double musket, which motion shall be by those that be within the same, more easy, more light and more speedy by much than so many armed men would be otherwise. The use hereof as well, in moving, serveth to break the array of the enemy's battle

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and to make passage, as also in staying and abiding within the enemy's battle, it serveth to destroy the environed enemy by continual charge and shot of arquebus through small holes; the enemy in the meantime being abased and all together uncertain of what defence or pursuit to use against a moving mouth of metal.'

In 1634, David Ramsey took out an English patent for a self-moving wagon, which could be used for military purposes, and in the following century, Voltaire delivered himself of a similar idea; nevertheless, in spite of endeavour all these attempts were doomed to failure until steam had been practically applied to engines, in 1765, by James Watt. Four years later, Cugnot, a French engineer, succeeded in building a steam road wagon which could be used in war, and some thirty years later, Napoleon, who must have heard of Cugnot's machine, wrote a paper on 'The Automobile in War' when he was selected as a member of the French Institute.

Though from the date of Cugnot's automobile, steam-power made rapid strides and concurrently, as it happened, the power of Cavalry for shock declined, we find no attempt made by soldiers to apply steam-power to the tactical needs of the day, and it is not until the next great war, that in the Crimea, is in progress, that we find any revival of the Tank idea.

In 1855, James Cowen, a social, medical and political reformer took out provisional protection for a 'locomotive land battery fitted with scythes to mow down Infantry.' He urged Lord Palmerston to adopt his device, but all to no purpose.

Between the war in the Crimea and the South African War, at the close of the Nineteenth Century, four important wars took place, without counting a score of lesser ones, simultaneously the most stupendous mechanical revolutions, since the application of steam to industrial manufacture, were changing the face of the world, yet, curious to relate, we find no soldier in any country suggesting the reintroduction of the battle-car, and this in spite of the fact that Cavalry had practically lost all mobility in face of the magazine rifle, and the possibility of producing such a vehicle existed in every country district in the shape of the traction engine. This deficiency in foresight is no compliment to the military talent of the Nineteenth Century, in fact, in spite of civil science and industry, the brains of the military leaders of Europe, if not neolithic, were many hundred per cent. below those of Fontana, Valturio and Leonardi da Vinci, who lived between four and five hundred years before their day. On this low altitude of thought was the Great War of 1914-18 fashioned, founded and fought.

V.—The Military Situation, 1899 to 1914.

The Twentieth Century opens with two wars of the first magnitude, the South African and the Russo-Japanese Wars, both of which, if rightly read, portended great tactical changes to the immediate future.

These two wars, though very different in complexion, coincide in character directly their inner meaning is understood, for both show the enormous defensive and, therefore, stabilising properties of the magazine rifle.

In the first, after a few brief methodical actions in which Cavalry, as such, take

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part, notably at Elandslaagte and Kimberley, Cavalry abandons all attempt to gain decision by shock tactics and takes to rifle and bayonet and becomes mounted Infantry pure and simple, using its horses, as the Trojans used their chariots, solely as means of locomotion towards or away from the enemy. Infantry, on foot, lose all offensive power through lack of mobility and become the stationary garrisons of defended posts or blockhouses. These linked up by wire fences not only entangle the enemy in a tactical spider's web, but form stable bases of operation from which the mounted Infantry can manœuvre and from which they can draw their supplies. The war is a rifle war pure and simple, the *arme blanche* plays practically no part in it either in the form of lance, sword, or bayonet, neither does the field gun in any way dominate.

The outstanding lesson of the South African War is the predominant power of the rifle, which has rendered the stability of Infantry on the defensive so great that it is no longer an economic proposition to use Cavalry against them; further, Infantry *versus* Infantry on foot or mounted attain no decision. Extensions, for self-preservation under fire, have now grown to fifteen and even twenty paces and all power of manœuvre has vanished. Ultimately the war is won by a slow process of attrition based on stable blockhouses and mobile horsemen.

In the second—the Russo-Japanese War—we find the same causes at work and similar, though not identical, effects resulting. Manchuria is not altogether unsuited to Cavalry, many open spaces exist, yet Cavalry accomplish next to nothing as Cavalry—there are a few minor charges which result in little profit, and as Infantry extensions prohibit manœuvre, other means of protection have to be sought, notably the trench, which plays an important part in nearly every battle fought during this war, especially so at Mukden, where the Russian trench system extended over a front of some thirty kilometres.

The outstanding lesson of the Russo-Japanese War is again the predominant power of the rifle, which has, to all intents and purposes, rendered fronts inviolable. This lesson absorbed so much attention at the time that the power of two, comparatively speaking, new weapons was overlooked—the full power of the machine-gun for covering fire and of the field-gun for breaching fire were not realised and had they been so the whole course of the Great War of 1914-1918 might have been completely changed. The evolution in tactics which was taking place may be briefly summarised as follows: Infantry extended could not gain fire superiority over Infantry entrenched, they had not the stability to do so, consequently this stabilising power had to be sought for more and more by means of Artillery fire. So apparent did this become that Major J. M. Home, one of the British officers attached to the Japanese Army, in 1904, came to the conclusion that Artillery was fast becoming the decisive arm. Rendering his report to the War Office, he wrote:—

'Since fire is the decisive element in modern war, all tactics resolve themselves into the problem of bringing the greatest amount of fire to bear on the enemy, whilst at the same time obtaining the greatest immunity from his fire. To this end the greatest possible advantage should be taken of the tremendous fire action of Artillery, and the action of the other arms should be closely combined with that

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of the Artillery. The actual tactics to be adopted by the other arms depend largely on how local conditions affect the action of Artillery; it is consequently impossible to lay down any standard form of attack or defence; the great cardinal principles, however, are combination and co-operation, bearing in mind that Artillery is nowadays the decisive arm.'

The tactical changes, so clearly diagnosed in the above few lines, are truly portentous when considered from the position of ten to twelve years later on. Infantry, tactically the stable element of an army, could no longer manœuvre, so powerful had rifle fire become. To move, it had to be defended not only by its own fire but by that of the guns; its mobility might, therefore, be calculated in terms of gun-power. If Infantry is reduced to a state of immobility how much more so, then, is Cavalry; thus we find that, in the brief space of the Russo-Japanese War, the whole of the ideas of war, based as they were on the 1870 campaign, have undergone a complete change; Infantry cannot advance save under gun-fire and they cannot pursue, for retreating Infantry move faster than the pursuers; the act of annihilation, the crucial act of victory, ceases to be feasible save under the most exceptional of circumstances.

During the period 1899-1914 stupendous industrial changes were taking place, in which may be found the germs of a new epoch in tactics. Steam was being rapidly replaced by petrol and the advent of the motor-car, like an avalanche, swept the horse from road, street, and lane.

Curious is it to relate that these stupendous changes in transportation grew from infancy into manhood unperceived, or nearly so, by all the military thinkers of Europe, so that, when war broke out in 1914, each army, organised on 1870 lines, found itself confronted by a 1914 problem which could not be solved by an 1870 equipment.

The lesson here is both simple and bewildering; an army, no more than a battle is 'a thing in itself'; an army is part and parcel of a nation and is controlled by the sciences which go to build up the national efficiency, and if it is not based on these sciences it becomes but a barbaric horde. Had this been realised at the time when the London General Omnibus Company was replacing its horses by internal combustion engines, it would not have been possible for us to have based our military mobility on muscle in place of petrol. Let us now see what the horse tactically accomplished during the Great War.

VI.—The Last Lap of the Cavalry Cycle.

It is not proposed here to enter into any detail as to the employment of Cavalry in the Great War; firstly, the facts are uncertain; secondly, they are difficult to discover.

Enormous masses of Cavalry were employed on both sides, and though the American Civil War of 1861-65 had demonstrated the uselessness of the lance and sabre, and that this uselessness had been accentuated by the events of the 1866, 1870, 1899 and 1904 campaigns, these masses went into action with these weapons. Had the tactical changes of the American Civil War alone been appreciated, long before 1914, Cavalry would have become mounted machine

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gunners or mounted automatic riflemen, and as such they would have constituted valuable mobile fire-power units, and all idea would have been abandoned of deciding the battle by shock, for against the machine gun there is no shock possible, save at totally incommensurate loss.

In August, 1914, the German Cavalry advance was carried out on the well recognised lines of the 1870 War. These tactics were successful, the German armies were well covered, and dismounted actions were of daily occurrence.

To provide stability to this curtain of horsemen, Jäger battalions and Horse Artillery kept close to the heels of the troopers who, though their mobility was reduced, reaped numerous advantages from this support.

On August 10, the 2nd and 4th German Cavalry Divisions advanced towards Velpe, between Diest and Tirlemont, but were forced back at Hasselt; two days later, supported by 2,000 Infantry and 18 guns, they were opposed by half their number of Belgian sabres, 400 Cyclists and 12 guns, and for over two hours this numerically weak force held them in such complete check that it was not until the German Artillery had rendered the village of Haelen untenable that the Cyclists were forced to withdraw, and though twice charged by the German Dragoons, they beat off both assaults with heavy losses.

Generally speaking, the advance to the Marne was not a difficult operation, for the German Cavalry were well supported by their Infantry columns, which endowed the troopers with that high fighting spirit which a stable force in rear always succeeds in stimulating. During this period the marches averaged twenty to twenty-five miles daily, so the pursuit cannot be considered as slow.

'In the fights for villages, the Jäger battalions were generally placed in front, dismounted squadrons on the flanks, and mounted detachments sent by wide turning movements to outflank or occupy the rear exits, thus cutting off the enemy's retreat. This manœuvre, which was repeated in almost every case, enabled the German Cavalry to take a large number of prisoners. Machine guns and Cyclists generally accompanied the advanced guards; and Cyclists were also frequently allotted to patrols.'*

The line of Paris was passed, and by September 6 Richthofen and his 60,000 Cavalrymen concentrated south of Chartronges. From here 'the forest of lances bearing the many-coloured oriflamme moved towards Provins for the decisive battle which was to bring about the end of the campaign. For had not an officer of high rank announced that they would dine at Fontainbleau that evening?'

At Courtaçon, Richthofen was held up by a small party of French Cyclists, who had to be cleared away by the Guard Jägers. Then at Les Murets a battery was in position, and an Uhlan regiment sent forward to attack it came up against wire entanglements, and had to retire and allow guns to deal with this village. At Champcenest, further south, the advance was stopped by rifle fire, and the German Cavalry reached the extreme limit of their pursuit.

* *German Cavalry in* 1914. By Lieut.-Colonel Poudret, *Revue Militaire Suisse*, 1917.

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During their retirement to the Aisne, we find the German Cavalry doing useful work. Generally speaking, they were strongly reinforced by Infantry and Artillery, and these combined forces succeeded in fulfilling the difficult tasks necessitated by the rearguard actions of this date.

Throughout the whole of this period the strategical use of the German Cavalry was good, but their tactical value was not great, the slightest rifle resistance halted their advance, and as for shock fighting, save for a few minor inter-Cavalry skirmishes, it did not take place.

Turning now to the action of the French Cavalry, we can extract some important information, which shows us the uselessness of massed Cavalry organized for shock tactics. On August 6, 1914, General Sordet, with no less than eighteen regiments, enters Belgium, and two days later is within twelve kilometres of Liege; he has accomplished little, save a considerable loss of horseflesh, though his presence may somewhat have raised the moral of the Belgian troops. To endow him with some stability he has to call on Cyclist support; the enemy's aeroplanes annoy him by directing gun-fire on his squadrons. He retires and, on the 21st of this month, links up with the British forces near Courcelles. On the 28th, 4,000 Alpine troops are sent forward by means of motor buses to support him. He falls right back behind the Marne, then advances and, on September 9, enters Senlis, but only after it has been 'nettoyé d'Allemands.' By now his loss in horses has grown critical and, on September 18, we find one of his officers writing: 'Some of the horses have the most terrible abscesses on their backs. The skin is mortified and sticks to the saddle blankets, so that one can see gaping caverns of pus, sometimes as big as the head of a child. The unfortunate beasts do not appear to suffer, for they drink and eat, and are ridden as long as they can stand. Yes, they are ridden and only abandoned at the very last, for a horse not mounted means one fighter the less.'*

Nine days later, this same Cavalry officer makes the following entry in his diary: 'To-day we have become Infantry, pure and simple. . . . . It is indeed a revolution; the carbine has become the predominant weapon. No longer is it a question of mounted Infantry, though the word is used by many, we do not yet, however, think of the bayonet, we smile at the idea. In any case, remember, there have been no charges.' And then he mentions that the German Cavalry always secured themselves behind their rifles; they did not even trouble to sharpen their swords, as prisoners captured from them plainly proved†

Later on, in Flanders, the French Cavalry regain somewhat their mobility, but only through their rifles and machine guns.

During August, Sordet's Cavalry covered 1,200 kilometres and in September 800. The loss in horse flesh was frequently terrible, one squadron in nine weeks, losing no less than ninety animals out of a total of 138.

Some interesting information regarding the French Cavalry has recently appeared in the *Revue Militaire Generale* in an article entitled 'A Quoi Sert la

* *Journal d'un Officier de Cavalerie.* Charles Ouig-Vernazobres. Page 70.

† *Ibid.* Page 81.

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Cavalerie ? ' by Colonel R. Boullaire, of the 2nd French Hussars, in which the writer shows how useful the Cavalry was as a reserve supply of officers and men for the other arms and how useless was the *arme blanche*. In 1915, the French Cavalry, writes Colonel Boullaire, seeks stability through the automatic rifle. ' The fire-fight,' he writes, ' has become the normal Cavalry action. The horse a means to increase the power and effect of surprise by mobility ; there will still be partial encounters with the *arme blanche*, but fire will play its part in limiting and completing success.' Cavalry he looks upon as a mobile fire reserve, ' Cavalry manœuvre on horse-back and fight on foot. Their mobility is the co-efficient of their powers of manœuvre in order to develop the maximum fire effect.' Cavalry he considers are nothing else than mounted riflemen. ' The era of brilliant charges is for ever relegated to the past ; the first chapters of a new epoch have been written in words of " fire " on the plains of Belgium and the confines of the Ile de France ; still, there remain many noted pages to be written—the Cavalry will know how to write them at the point of the bayonet as formerly Cavalry wrote them with sabre cut and lance thrust.'

Quick-firing Artillery, Machine Guns, Tanks, and Aeroplanes he considers of indispensable assistance to Cavalry, but he does not seem to realize the cross-country powers of movement of Tanks, for one of his arguments for the maintenance of Cavalry in the future consists in pointing out that as armoured cars are tied to roads they will require Cavalry flankers to protect them. Finally, he considers that Cavalry should be organized into groups of mounted men equipped with automatic rifles.

Each group should consist of :—

(1) A combat squad—automatic riflemen.
(2) A reconnoitring squad—scouts.
(3) An inter-communication squad—signallers.

The Madsen rifle, he is of opinion, would be a suitable arm. The combat squad might consist of four sections of four mounted men each and four pack horses, each section carrying 3,600 rounds of S.A.A. He further suggests the abolition of the present Cavalry Machine Gun sections and their replacement by sections armed with light guns (*canon de* 37)* so that Cavalry can deal with machine guns, armoured cars, and tanks.

Colonel Boullaire's paper is an interesting one, written as it is by a noted Cavalry leader, for it shows how completely Cavalry tactics are now dominated by fire—that is, power of stability to render their mobility possible.

It is not proposed here to enter into the detail of the work carried out by British Cavalry in the recent war. During the retreat from Mons the normal procedure was to select fire positions from which retreat was easy ; later on, in October, Cavalry, assisted by two machine guns, captured the Mont des Cats. In 1915 and 1916 there were no Cavalry engagements ; in 1917 Cavalry, though used at the battles of Arras and Cambrai, accomplished practically nothing save on foot. In 1918, at the battle of Amiens (August 8–11), though Tanks and Infantry had created a

* The 37 gun has been proved a poor anti-tank weapon.

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gap of no less than 20,000 yards in width and the ground was practically free from wire and trenches, no pursuit was developed, the ubiquitous machine gun and the scarcity of water completely preventing this. This state of affairs existed right up to the end of the war; there was no Cavalry pursuit in the correct sense of the term; further, there were no Infantry advances either against any type of opposition unless the Infantry were preceded by Tanks or heavily supported by Artillery.

In spite of the strong conservatism of the British Cavalry leaders, certain interesting changes took place in the Cavalry equipment and all towards endowing Cavalry with the stability it no longer possessed. In October, 1914, bayonets were served out; in June, 1915, two extra machine guns were issued to each regiment, bringing the number up to four; in the same month twelve shovels and six picks were allotted to each troop and an extra bandolier of ninety rounds to each horse; in January, 1916, each troop received a Hotchkiss gun, and machine guns were formed into machine gun squadrons, one squadron of twelve guns being allotted to each brigade, and in July, 1916, to each brigade was issued a tool cart carrying 144 picks and seventy-two shovels.

In spite of these changes the lance and sword were still carried, to the detriment of the horse and the satisfaction of the enemy. Well may it be asked for what purpose? Well may it also be asked, would not the British, German, and French Cavalry have reaped greater profit in pursuit, retreat, attack, and defence had they, throughout, been armed with a light machine gun or an automatic rifle? The ways of war are strange and one of the strangest and most persistent of heresies is the maintenance of the lance and sword, which over a hundred years ago were all but impotent at Quatre-Bras and Waterloo. To say that the cavalryman's moral depends on his faith in an obsolete weapon is surely an insult to the man and the soldier. The abandonment of the ram on a battleship has not deteriorated the pluck of the sailor.

In support of the *arme blanche* and the use of Cavalry as an effective weapon in the pursuit, frequent reference has been made by the adherents of Cavalry as Cavalry to the brilliant use of this arm in Palestine during the final stages of the war in the East. It cannot be doubted that here Cavalry were well used and that they proved a decisive factor in the annihilation of the Turkish forces; but the circumstances under which they were employed are sometimes lost sight of. Firstly, the moral of the Turks was on the downward grade; secondly, the preponderance of the British Artillery was terrific. The Turks, broken by a hurricane of shells, were rapidly followed by the British Cavalry, who, according to plan, so it is understood, were to be strongly supported by Infantry, but who, as a result of fine leadership, directly the opportunity offered itself, abandoned the plan and galloped not at, but *through*, the retreating fragments of the Turkish forces and by threatening their flanks and rear, utterly demoralized them. The use of Cavalry in Palestine was masterly, but it was the 'moral threat' and not the *arme blanche* or even the rifle and machine gun which proved their strongest weapon. That such tactics could not equally well be accomplished by fast moving Tanks, which could fire as well as move, will be considered in another section of this study.

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VII.—The Cavalry Spirit.

In the tenacity with which Cavalry in all armies had held fast to the lance and sword as their primary weapons of attack is to be traced the curious combination of the clear appreciation of the fundamental action of Cavalry and a lack of judgment as to how this action could ecomomically be materialised.

Throughout the history of war preference has always been given to the soldier who fought with spear and sword; not only is the hand-to-hand contest heroic, but it is this contest which clinches victory beyond a doubt; for, without it each attack becomes but a passive destruction culminating in the attrition of the weaker side.

Again, throughout history, the frontal attack has seldom led to an economic solution of the problem of victory, for we see time and again, during the last 2,500 years of war, that victory is gained by ability to manœuvre and generally against a flank, this manœuvre being most frequently carried out by concentrating Cavalry or Light Infantry against the wing or rear of the opposing army. In the days of Napoleon this system of grand tactics grew costly, in the days of von Moltke we find it still more so, nevertheless victories are still gained in the old way—the advance of a stable Infantry line, supported by Artillery, which not only immobilises the opposing Infantry by pinning them to their ground, but which forms a tactical base from which the Cavalry can manœuvre. As late as the Russo-Japanese War we find this possible; at Liao Yang, Kuroki's frontal attacks are all in vain, and it is not until he succeeds in outflanking the Russian left wing that victory is his. At Mukden it is much the same, and though the Cavalry do not charge, they, by threatening the Russian line of retreat, decide the battle morally.

Mobility, even by means of the 'moral threat' and not the clash of steel, is nearly always successful if a flank can be discovered or created, and, as long as such flanks are possible, Cavalry can decide the fight if they carry the appropriate arm—the light machine-gun, and are accompanied by strong forces of Artillery.

To have abolished Cavalry as long as the nature of warfare presupposed that flanks would exist, would have been the height of folly, a complete misunderstanding of the requirements of battle. To maintain the lance and sword as they were maintained was equally foolish. 'Don't talk to me about your Hussars,' shouted old Blücher, a hundred and odd years ago, 'against that rascal it is guns we want, and plenty of guns!' This outburst fairly sums up the tactical value of the *arme blanche* in the days of the flint lock; how much more so, then, to-day.

As the stability of the Infantry increased, formations became more and more linear, in order to develop fire and to avoid flanks, and greater grow the difficulties of the Cavalry manœuvre. Simultaneously, do the Infantry grow more and more paralytic until, in 1914, they, after a short hurry-scurry of open warfare, become completely stabilised in static lines of trenches and tactical mobility ceases to be possible. There are no flanks, there is no possibility of using Cavalry save as mounted Infantry, or better still as mounted machine gunners. Battles are now matters of the passive offence, one phalanx hurling projectiles against another

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in place of pushing pikes, warfare has retrogressed to the days of Sparta and Macedon.

A little foresight would have shown that though the Cavalry spirit, that 'idea' of annihilating the enemy, was always right, that the means which were attempted to accomplish it were obsolete in the extreme. Had these two salient facts been recognised, there would have been little talk of abolishing Cavalry, instead its re-creation on scientific lines would have absorbed the attention of every thoughtful soldier. The problem to be solved was in essence a simple one: 'how could the Cavalryman's stability be increased to enable him to make use of his mobility.' The solution was a dual one: either the Cavalryman had to be rendered impervious to bullets or a new weapon had to be invented which would prevent bullets being thrown against him. The first, was a question of direct protection, the warding off of blows; the second, of indirect protection, the prevention of blows being delivered. The problem was in fact the old, old question of 'how to give blows without receiving them,' the crucial problem to be solved in every battle.

VIII.—The First Cycle in Mechanical Warfare.

Mechanical warfare may be defined as 'the movement of an army by other than muscular energy,' and it is only proposed here to enter into sufficient detail in order that the present may be linked up with the past, for movement is a fundamental element of war.

Accepting the above definition as a basis to work on, it will at once be realised that the origins of mechanical warfare are very old. The sail of a ship is a mechanical means of movement, and the vain attempts of the engineers of the Fifteenth and Sixteenth Centuries to apply sails and wind wheels to landships have already been described in a previous section.

To all intents and purposes, mechanical warfare on land begins with Cugnot's invention of a road steam automobile, in 1769, the year in which Napoleon was born. This invention, as already noted, comes to nothing, and though steam-power makes extensive strides both in industry and in water transportation, it is not until 1829—sixty years later—that Stephenson runs his first locomotive, the Rocket, from Manchester to Liverpool.

Civilisation, which is more a matter of communications than anything else, now undergoes a stupendous revolution and, within twenty years of this date, the science of strategy, which has hitherto been based on road and water communications, shifts its centre of gravity towards the railways. These, from 1859 onwards, become the most important factor in land warfare. In 1862, at the battle of Bull Run, we find troops detraining on the battle-field; in 1866, the Prussians make full strategical use of their railways; in 1870 their initiative may be considered as a co-efficient of their locomotives; and, from this date forward, it is the railways and the railways alone which render possible the maintenance rather than the movement of the enormous tactical masses of men which have so far characterised modern warfare.

In 1900 a quarter of a million men are supplied by three railways in South Africa; five years later three times this number are supplied by one line, the trans-

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Siberian railway, and 6,000 miles from their base. Armies may now be compared to enormous pumpkins hanging on slender stems, upon the intactness of which their sustenance depends. The question, so far, is purely administrative, strategy itself being based more on the administrative than the tactical requirements of a campaign for, on account of the size of the armies operating, any idea of living on the country means starvation. This gives rise to the building of strategical, in contradistinction to commercial railways during peace time, and thinking in terms of iron rails forms the basis of most military speculations.

In order to protect these lines it is found more economical and efficacious to make use of armoured trains than permanent garrisons or Cavalry patrols. In Egypt they prove their utility, and again in South Africa, where they are in constant use. The armoured locomotive and train may be considered as the first step taken in order to add tactical value to the strategical and administrative possibilities of mechanical warfare.

Tactically the limitations of the railway are very definite. Controlled by a one dimensional direction, the armoured train possesses no power of manœuvre, it is extremely mobile but only in one direction and up to the enemy's battle front through which it can seldom pass.

This limitation was fully recognised during the early stages of the South African War, when armoured traction engines, hauling three or more bullet proof wagons, which could accommodate either Infantry or Artillery, were produced in England by Messrs. John Fowler, Ltd., for use against the Boers. A very similar invention had been suggested by James Cowen to Lord Palmerston as far back as 1855, as described in Section V.

Throughout military history, forethought has seldom formed part of the soldier's intellectual outfit; comatose during days of peace the soldier, hoodwinked in self-sufficiency, awaits the advent of war, he opposes all innovations, scoffs at science, and blindly trusts necessity to provide, by some magical process, the correct solution to his future difficulties.

After the South African War, just as after Waterloo and the fall of Sebastopol, the British Higher Command retired into its mausoleum of routine to ruminate over the minutiæ of detail which would bear little relationship to the requirements of the next war; the next war, ever since 1815, having always differed totally from the one which preceded it. What do we see?

The machine-gun neglected and opposed, a lengthy wrangle over the value of the *arme blanche*, another over the trajectory of the rifle, no attempt to introduce an automatic rifle or a light machine-gun, though several patterns existed, an almost complete oblivion as to the necessity for heavy artillery, in spite of the entrenched nature of the Russo-Japanese War, etc., etc., etc. These were but minor errors in judgments and foresight when compared to the total lack of imagination displayed, not only in Great Britain but throughout the military nations of the world, as regards the future means of moving men, weapons and supplies, the strategical, tactical and administrative mobility of an army.

Without railways both the South African and Russo-Japanese Wars would have been impossible, but how could their one dimensional limitations be

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mitigated or obviated? Firstly, by multiplying the number of railways, an impossible act outside the Empire; secondly, by adding to them roads and moving automobiles, unarmoured and armoured, along them; thirdly, by inventing steam or petrol driven cars to move off the roads across country. Was the last of these ideas feasible? Not only was it feasible, but in actual use in commerce and agriculture, it was a matter of everyday occurrence—it existed.

As the railway strategically enabled immense armies to take the field, so did the lorry and motor bus not only give elasticity to the movement of these masses but also enormous tactical power. Without the lorry Artillery battles, such as were fought on the Somme, at Arras and at Ypres, could not have taken place. At the last men ioned of these battles no less than 93,000 tons of shells were fired during the initial bombardments and on the first day of the battle. Most of this enormous weight of metal and explosive was moved at one time or another by lorry, the whole representing 279,000 three-ton lorry loads. Verdun, in 1916, was saved by the French lorries, and the German Kaiser battles of 1918 were rendered possible by German ones; in May this year, between Soissons and Reims, the German pursuit was carried out by mechanical Dragoons, Infantry mounted in motor buses.

It is needless to accentuate these examples, it is needless to describe how aeroplanes, another means of mechanical motion, revolutionised tactics, or how permanent railways grew and were linked up by thousands of miles of *decauville* lines, but it is interesting to note that, though the capacity of every railway, canal and road was being taxed to the utmost, so strong had the defensive grown as to render nearly every great attack abortive on account of the lack of means of communication and supply.

The solution to this problem was the cross-country tractor, no very novel invention as the first patent for a footed wheel was taken out in England in 1770. Its evolution had been slow, but by the beginning of the present century, the caterpillar tractor was a common article of agriculture, especially in America, and it only required a few improvements to convert it into a serviceable military vehicle.

Since 1870 the progress in mechanically propelled vehicles had been immense, in 1914 their necessity in war, which might well have been foreseen, only became apparent when Manoury had to scour the whole of Paris for motor cars, motor buses and taxicabs, in order to be able to attack von Kluck's right flank. It was the internal combustion engine which won the Marne and not the horse. The years which follow prove the horse administratively to be too slow and uneconomical and tactically to be next to useless, for the animal had to be fed, groomed and tended though it could not be used; this alone absorbed vast quantities of men and many tons of shipping, the economical use of which were the two primary needs of the Allies throughout the war.

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CO-OPERATION OF AIRCRAFT WITH CAVALRY.

General Principles.

The possibilities resulting from the co-operation of aircraft with Cavalry are so great, and the two arms are so well adapted for mutual support, that it is unfortunate that, owing to a variety of circumstances, this field of activity could be so little exploited during the past War. It is as well to admit that in some cases a mutual lack of appreciation of the capabilities of the other arm was founded upon prejudice and ignorance. There were a certain number of officers in the Cavalry who, although they would have been the last to admit it, showed by their attitude towards aircraft, an air of resentment against the new arm, arising from a wholly mistaken belief that aeroplanes had come to "usurp" the reconnaissance duties hitherto the prerogative of the Cavalry.

Similarly, ignorance of the principles of war, and an unwillingness to admit the limitations of their own arm, lead some officers of the Royal Air Force to believe that a new prophet had indeed arisen in Israel, who would give out new laws to his peoples, and they regarded themselves as his apostles.

The minority views set out above have been recorded because they undoubtedly existed, and because, until their fallacy is entirely exposed, they will tend to operate as a barrier between two arms which are so essentially adapted for co-operation.

The first essential point to grasp is, that *aeroplanes can no more do the work of Cavalry than Cavalry can do the work of aeroplanes.* The introduction of aircraft, while rendering warfare more complicated, and

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entering into the work of all arms, yet leaves the principles of war, and the roll of all arms unchanged. Aeroplanes supplement and extend, they do not replace. But because the aeroplane enters into the task of all arms, so all arms must have a thorough knowledge of the capabilities and limitations of aeroplanes. Without this knowledge they cannot benefit by the assistance of their own aircraft and thwart the activity of the enemy's aerial forces. And hitherto in the case of Cavalry and aircraft has this barrier of mutual ignorance been the most marked, for the obvious reason that, whereas, throughout the past War, co-operation during operations between aeroplanes and Artillery was a daily state of affairs, and direct co-operation between Infantry and aeroplanes was a normal occurrence, co-operation during active operations between aeroplanes and Cavalry was, on the Western front, a rare and (actually) unprepared for event. For one thing, even in the squadron that was allotted for work with Cavalry corps, an observer, who had more than a vague theoretical knowledge of the organization and rôle of Cavalry, was an *avis rara*. A thorough knowledge of Cavalry tactics, and Cavalry difficulties, is the first essential for the aerial observer whose duty it is to co-operate with mounted troops.

The ideal that must be obtained by training and practice is that the Cavalry commander shall look upon the commander of the aircraft in conjunction with which he is working, as his confidential adviser, with whom he must always be in the closest touch.

With a clear conception of the capabilities and limitations of aircraft for reconnaissance, the difficulties of inter-communication, and an exact appreciation of how their speed can best be utilised for transmitting information, he will be able to effect a great economy in the employment of his troops, and to reap the greatest advantage from their work.

Reconnaissance by Aircraft.

Aeroplanes are not efficient instruments of visual reconnaissance. The great advantage that they derive from their speed and their ability to move over areas closed to Cavalry, has frequently obscured this fact. The reason why aeroplanes are not efficient instruments of visual reconnaissance is that, from the air, it is not possible to force contact with a concealed opponent who is not compelled to expose himself by some

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means quite extraneous to the aeroplane. A patrol on the ground can draw fire, or compel exposure by the threat of its approach, an aeroplane cannot. A brigade may be concealed in a wood, or in a village, and, so long as it remains beneath overhead cover, it is beyond the power of an aeroplane to locate it.

Strategical reconnaissance of railheads, dumps, etc., carried out from a considerable altitude, and especially if supplemented by photographs, is the type of reconnaissance for which aeroplanes are the best suited, and from which most valuable results can be obtained.

Tactical reconnaissance, demanding observation from 3,000 feet or lower, is incomplete, not only because of the limitation imposed by the inability of the aeroplane to force contact with a concealed opponent, but also because, when flying low, the speed of the machine over the ground, renders observation of any particular locality extremely difficult, and fire from the ground causes loss, and diverts attention. In short, while *positive* information from aerial reconnaissance is usually very accurate, so far as it goes, *negative* information is often of little value, and may prove extremely misleading.

The nature of the country must, of course, greatly affect the amount and accuracy of the information obtainable. Observation in a populated, or afforested country, will be a very different thing to observation in the featureless plains of Mesopotamia. The training and discipline of the enemy troops in concealment, and in self defence against aircraft, is another factor of great importance. In intersected countries, such as Western Europe, where detailed tactical reconnaissance can only be carried out from 3,000 feet, or lower, it should be possible for really well trained troops to render this work of the aeroplane so expensive as to be unprofitable. While this type of country also renders concealment from aerial view a matter of comparative simplicity.

Climatic conditions may render the work of the aerial observer difficult, or impossible. Fog, rain, high winds, low clouds, or heat haze (ground mist), the last named, be it noted, a condition quite unapparent and inestimable from the ground, may stop or curtail successful reconnaissance.

The local fogs in the Somme valley on the mornings of March 21st, and the succeeding days of the initial German advance, in the spring of

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1918, rendered our reconnaissance aeroplanes powerless at the critical point, at a critical moment. Similarly, the German preparations before their great attacks of that year, both on the British and on the French, show how effective carefully organized concealment from aerial reconnaissance may be, even when vast concentration of troops and stores are concerned.

Aerodromes and Landing Grounds.

To a very great extent, the work of aeroplanes is dependent upon the position and facilities of their base, and its proximity to the scene of operations. This applies especially to their reconnaissance duties. The greatest development of the Royal Air Force took place under conditions of siege warfare. The lack of opportunity for Cavalry under the conditions upon the Western Front, from November, 1914, to August, 1918, coincided with the opportunity and development of aircraft. Stationary warfare favoured the establishment of aerodromes chosen at leisure, constructed at leisure, adapted at leisure. Road and telephonic communication was a matter merely of arrangement. It rendered, ridiculously easy, the transmission of information gained to the right quarters, the closest liaison with troops, and the supply of spare parts stores, new machines and personnel for the maintenance of squadrons. Efficiency—especially upon paper—was simplified; the higher training of the individual who took the air became less necessary, for the time being, as it became less obtainable; in short, the Air Force underwent the same process of individual deterioration, consequent upon siege warfare, as did the other arms, involved in its trenches, and its emplacements, with the difference that the instruments in the hands of the Air Force improved as time progressed out of all proportion to those in the hands of the Infantry and Artillery. The return to normal warfare in the autumn of 1918 introduced and emphasized the difficulties, as well as the opportunities, of the employment of aircraft. While the long distance work of aeroplanes, such as bombing and army reconnaissance—in short, the work for the higher command—could still be carried out from aerodromes at a distance from the firing line, co-operation in the forward zone with formations from the Corps inclusive downwards became extraordinarily difficult.

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The maintenance and repair of machines alone renders a constant change of landing ground impracticable, as a rule, and without constant moving, in order to be near the work that has to be done, close co-operation between aircraft and the troops for whom they are working becomes nearly impossible. It is remarkable how few places there are suitable for a landing ground, even in what, at first sight, seems an open country. This was well illustrated by the great difficulty found in providing for the squadrons behind the Third and Fifth Armies in France when the enemy overran their old established aerodromes in March and early April, 1918. In trying to visualize the reconnaissance duties of aircraft in a future war, we may start by differentiating between strategical and tactical reconnaissance. The former with the great distances traversed, usually from over 15,000 feet, and with photographic aid, becomes, as in the war on the Western Front, from 1916 to 1918, largely a battle of wits between the 'I' staffs of the opposing armies. In considering tactical reconnaissance we have less to guide us in forming an opinion. Here there would seem to be more scope for technical improvements likely to affect work, of which wireless telephony, and the introduction of efficient armoured machines, may be cited as examples. But against such technical improvements must be set the probable peace-time training by all arms in the simple, but hitherto little utilized, principles of concealment and self-defence.

Concealment from Aerial View.

The statement has been made above, that little regard has been paid to concealment from aircraft during the past War. It is true that, during the long period of trench warfare upon the Western Front, considerable efforts were made in this direction, especially by the Germans, whose attempts met with a considerable measure of success; but when the war of movement began, the lack of *individual* training in this respect became most marked. It is one thing for a battery commander to know how to construct concealed emplacements at leisure, or for a commander to prevent tracks being made to a wood or entrenched position, and quite another thing for each individual to automatically consider a temporary position or a line of advance with an eye to its conspicuousness or facilities for concealment against an aerial observer. Our numerical

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and active superiority in the air during the past War in France compelled the Germans to practise greater care than we did, hence, lack of training and trouble in this respect was most marked among us. The principal factors affecting observation from the air, of objects upon the ground, are background and shadow. The more broken the background upon which any object that it is desired to conceal is situated, the harder it is to detect, and by 'broken' is meant that the surface of the ground presents to the eye of the observer variety of feature, and not merely inequality of surface. For example, from the aerial observer's point of view, a perfectly flat surface, cultivated in small patches, is more 'broken,' and therefore harder to examine, than open downland, full of undulations and ravines, which presents uniformity of colouring, and in which the contours are flattened out when viewed from above. Objects on a road show up very clearly against the uniformity of the surface. In average visibility, a single man can be seen walking along a road from 5,000 feet. Even a large number of men, moving across country, are unlikely to be detected from above 3,000 feet, unless they are in close formation. From the air, the open cultivated country of North France appears as a check board. The margin between two ploughed fields, an inconspicuous feature viewed from the ground, shows up clearly from the air. If one half of a ploughed field has been rolled, and the other half left rough a very clear line of demarcation is presented to the observer's eye. If a hundred men were lined out in the field, five yards from the edge of the rolling, they would probably catch the observer's eye by causing an unnatural break upon a uniform surface, but if the same men stood upon the line of demarcation between the rolled and the unrolled portions of the field, they would probably escape detection by conforming to the natural break upon the surface. The most likely thing to show up their position would be the shadows that they would cast if the sun were shining. Where hedges or ditches exist it is obvious that concealment, by conforming to natural alignments, is still simpler and more effective. Shadow from the air shows up very clearly. The best possible concealment for any object, short of overhead cover, is natural shadow. In the shadow of a hedge, tree, building, etc., the most conspicuous object is hard to detect. From this, it follows that, so far as concealment from aerial view

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is concerned, in taking up a position at night, the north side of any object that is high enough to cast a shadow should be selected in preference to the south side.

Camouflage is very little good if the object camouflaged is high enough to cast a shadow. Take an aeroplane photograph showing a tree upon a grass background. It will be seen that the shadow which the tree casts is far more conspicuous than the tree itself.

Digging always shows up clearly and cannot be effectively concealed, but in this connection it should be remembered that the maximum of concealment possible will always repay the trouble expended. The work of the aerial observer directing Artillery fire is easier or more difficult in proportion with the conspicuousness of the target. The more difficult the target is to see clearly, the nearer and more directly above it must the aeroplane fly, the more liable will it be to interruption, and the less accurate will the registration tend to be.

If the enemy is indulging in much night bombing, the use of woods for purposes of concealment may be attended with a considerable risk. Woods are very easy to detect at night. They will always be suspected of holding horses, if Cavalry are known to be operating. Hence, if the choice presents itself, it will frequently be found preferable to utilize small spinneys or belts of trees in preference to clearly defined woods, especially if the latter are marked on the map. The commander working out his orders from the map has a natural tendency to detail such woods for bivouacking in; so has the commander of the hostile bombing aircraft the same tendency to detail them as his targets.

The eye of the observer in the aeroplane views the ground in a manner not dissimilar to the lens of the camera. It may therefore be permitted to quote from 'S.S.206,' 'The Principle and Practice of Camouflage,' in which the aspect of ground surface from the air is very clearly expressed.

'A photograph records colours, accidents of ground, such as bare earth, vegetation, woods, etc., in terms of light and shade, and is a patchwork or pattern of black and white meeting in varying intensities of grey. The pattern may be large and simple like that on a chess-board, or intricate and confused like that on a painter's palette. An agricultural district presents a regular chess-board pattern, with large rectangular

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expanses of monotone, the only accidents to break the monotony being occasional hedges, banks, or houses with their attendant deep shadows. Broken ground such as demolished villages, shelled areas, or patchy vegetation presents a highly complex pattern, full of merging lights and shades.

'Photographically, the effect of colour is not so marked or important as the effect of light and shade. Earth is towards the white end of the scale, and grass or vegetation towards the black—*not* because of their respective colours, but on account of the amount of *contained shadow or texture.*

'A billiard table or top hat illustrates this quality. Brush them the wrong way, against the nap, and their tone is lowered to dark green in the one case and dead black in the other; brushed the right way, they appear very noticeably lighter in tone. Another example is the shiny appearance of an old frock coat, and the knees of old trousers. The reason is that they gain texture when brushed the wrong way and lose texture when brushed the right way. In other words they absorb light in the former case and reflect light in the latter. Nap is constituted of millions of slender hairs, each one throwing a shadow when erect, but casting none when "laid." Grass, or vegetation, possess this same property to a marked degree. The longer it is, the darker it appears on a photograph; but when it has been pressed down the amount of shadow thrown is lessened, and, consequently, it appears lighter. Hence the obviousness on a photograph of a slightly worn track in grass which is quite inconspicuous from the ground. Earth, on the contrary, contains little texture and the longer it has been turned up and exposed to rain and sun the less it has. A beaten track is, however, noticeable as it contains no texture at all, and will therefore reflect more light.

'The reason for the mottled effect in a photograph of a patchy mixture of grass and earth, which blend imperceptibly into each other, is therefore evident.

'It is essential when judging the colours of a locality to view it vertically and not obliquely, as one is accustomed to see a flower bed. A field of young corn, viewed from the ground, appears green, but from above, probably the earth only is seen, darker in tone than the normal owing

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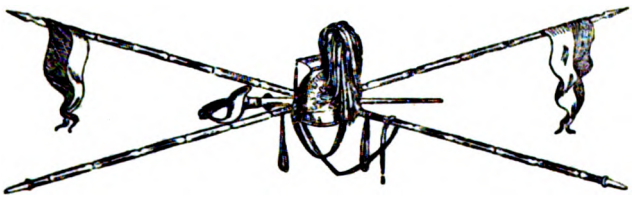
to the shadows cast by the young blades of corn. Similarly, with a field of ripe corn, the actual light tone of the straw and ear will be somewhat darkened by the shadows.

'It is of first importance to grasp this principle of regarding any locality from the point of view of the pattern it will present on a photograph.'

A series of these articles on the subject of Co-operation of Aircraft with Cavalry will appear in the CAVALRY JOURNAL. They are written by Major A. W. H James, M.C., Squadron Leader at the R.A.F. College, Cranwell, an officer of the 3rd Hussars, who will be remembered by many of the readers of the CAVALRY JOURNAL for the excellent lectures he gave to units of the Cavalry Corps in France in 1918.



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FIELD-MARSHAL SIR EVELYN WOOD, V.C., G.C.B., G.C.M.G.

By MAJOR-GENERAL SIR H. D. FANSHAWE, K.C.M.G., C.B.

THE death of Field-Marshal Sir Evelyn Wood on December 2nd, 1919, in his eighty-second year, has left a gap in our military life which it will be difficult to fill, but his name will always remain as a brilliant example of loyalty and devotion to duty, in the history of the British Empire. His name has not been prominent in the accounts of the recent great war, but there is no doubt that he was one of the chief corner stones in the foundation of that wonderful little expeditionary force that saved Europe and our Empire from disaster.

No branch of the service is more closely connected with the life of Sir Evelyn Wood than the Cavalry; most of his regimental service was in the Cavalry, and it was as a Cavalry officer he won the Victoria Cross. In later years, when some military authorities argued that there would be no further use for cold steel under modern conditions of war, and umpires at manœuvres gave the mounted troops little credit for their action, Sir Evelyn took up the cudgels strongly in favour of the Cavalry. With the special object of encouraging Cavalry officers he wrote 'Achievements of Cavalry' and 'Cavalry in the Waterloo Campaign,' two most interesting and instructive records of good Cavalry work.

Sir Evelyn was the youngest son of the Reverend Sir John Page Wood, Baronet, Vicar of Cressing, Essex. He was born on February 9th, 1838, and was educated at Marlborough College.

He entered the Royal Navy in 1852 and served with the Naval Brigade in the Crimea, where he very soon showed that indomitable pluck and devotion to duty, which were his ruling characteristics through life. He performed several acts of great gallantry. On one occasion he volunteered to bring up powder from an exposed position under heavy fire, and on the following day he climbed on to the burning roof of a magazine and extinguished the flames under concentrated fire from the guns of the Malakhoff and Redan. Again, on June 18th, 1855, when with a storming party he carried a ladder to the abatis, although twice wounded, and was the only Naval officer of the right column who reached the Redan. For these acts he was recommended for the Victoria Cross, but was destined to perform further deeds of gallantry before receiving this coveted reward.

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In September, 1855, for his services in the Crimea he was granted a commission, without purchase, in the 13th Light Dragoons. When the Indian Mutiny broke out in 1857, he obtained a transfer to the 17th Lancers in order to accompany them to India. Shortly after their arrival at Mhow, he was attached to the 3rd Bombay Cavalry, and in command of a squadron of that regiment greatly distinguished himself in the operations against Tantia Topi. In the action of Sindwaha, October 19th, 1858, he, having failed to induce a native officer to attack with his troop, charged almost single handed into a party of rebels, who were making a stand, and he must have been overwhelmed, if it had not been for the timely arrival of a troop of the 8th Hussars. A few days after this he was appointed staff officer of the flying column, first under command of Colonel Benson, 17th Lancers, and afterwards under Brigadier-General Somerset. The column persistently pursued, and finally overtook and defeated, Tantia Topi on January 1st, 1859. The troops had marched about 5,000 miles in the eleven months' campaign.

Lieutenant Evelyn Wood rejoined the 17th Lancers in April, 1859, but was almost immediately appointed Brigade Major of Beatson's Horse, and a few months later was given command of one of the regiments of that corps. One evening, during dinner at the regimental mess, he received a message, stating that a band of rebels was in the neighbourhood of one of his detached posts, which was situated about thirty miles from headquarters. He gave orders for his horse to be ready in an hour's time, and rode all night by a cart track through the jungle. Having visited two other posts without gaining further information, he reached the small outpost at Sindhara just before dark the following evening, December 28th. Here he learnt that the rebels had burnt the village and carried off the headman, who had always been loyal to the British Government, and whom the rebels had threatened to hang. He obtained a guide, who knew the haunts of the rebels, and taking with him fifteen men, all that were available from the detachment, started at nine o'clock. The night was very dark, and movement through the jungle in silence was difficult and slow. At about midnight, the guide, who was trembling violently, pointed to a light, which he said was from a fire in one of the rebels' hiding places. The party dismounted, and left three men in charge of the horses; to avoid any sound, the remainder continued very cautiously on foot. Wood crawled up to within ten yards of the hollow, where the party of seventy or eighty rebels were sleeping; he, having noticed that the sentry was leaning against a tree, and that the prisoners were tied to other trees, beckoned to his men to come up. He gave them the signal to fire, and then shouting 'Charge,' rushed into the midst of the rebels, followed by the duffadar and one sowar of Beatson's Horse. The remainder of the party hung back, but the enemy were so startled by the suddenness of the attack that they fled through the jungle, leaving their prisoners and most of their rifles on the ground, in addition to some of their party who had been killed or were badly wounded. For this action, combined with his gallantry at Sindwaha on October 19th, 1858, he was awarded the Victoria Cross.

In May, 1860, the 1st Regiment of Beatson's Horse was disbanded, and Lieutenant Wood was ordered to raise the 2nd Regiment of Mayne's Horse, now known as King George's Own Central India Horse. With his new regiment he continued the

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arduous work of hunting down rebel bands. But in December of that year, after three hot seasons in camp or bivouac, his health broke down, and he was invalided home.

In April, 1861, he was promoted captain, and in August of that year brevet major for his services in India. In the autumn of 1862 he passed the examination for the Staff College, but as another officer of the 17th Lancers was placed above him by one mark, he was only able to enter the College by exchanging into another regiment. For this reason he exchanged into the 73rd Perthshire Regiment, and so terminated his service as a regimental officer in the Cavalry. The remainder of his service, with the exception of a few months with the 90th Light Infantry, was on the staff or in command of troops of all arms.

In September, 1873, he was sent on special service to the Ashantee War. He raised a native regiment, and commanded a column in various operations. For this campaign he was promoted to the rank of colonel and received the C.B.

He went out to South Africa in 1878 and commanded columns throughout the operations against the Kaffirs and in the Zulu War, being given the rank of brigadier-general. On his return to England in 1879 he was awarded the K.C.B., and was knighted by Queen Victoria at Balmoral.

Shortly after his arrival home he was appointed to command the Belfast District, but was transferred to Chatham, which command he held until he was again ordered to proceed to South Africa for active service, in 1881.

On Sir George Colley's death at Majuba, Sir Evelyn Wood took command of the troops in Natal, and loyally carried out the Government's instructions for negotiations with the Boers, although he had strongly recommended their dispersal by force, before making terms. He stated in his telegram '. . . I can humanly speaking promise victory. . . . I undertake to enforce dispersion.'

In August, 1881, he was promoted major-general, and in December of that year he returned to England and resumed the command at Chatham. He was awarded the G.C.M.G. for his services in South Africa.

The following August he sailed with the Expeditionary Force for Egypt, and was given command of the troops at Alexandria and Ramleh. In December, 1882, Sir Evelyn Wood was appointed to raise and command the Egyptian Army, with the rank of sirdar. The good work that has since been done by the Egyptian troops is due to the soundness of his organization and system of training. When the Nile Expedition was organized under Lord Wolseley, he was given command of the lines of communication, and later became Chief of the Staff. After the campaign he was invalided home.

From 1886 until the end of 1888 he held command of the Eastern District, with his headquarters at Colchester. After that he was appointed to the Aldershot command, where he started the practical training of the troops, which has borne such good fruit in the great war.

He gave much attention and time to the training of the Cavalry, and was a great advocate for practising the use of cold steel; he believed that opportunities would occur in future wars, as they have in days gone by, for Cavalry to attack mounted. He used to say, 'If you take the bits out of the horses' mouths, Cavalry will ride over the best Infantry in the world.' One day, when he was watching

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Lieut. Wood
13th Light Dragoons. 1855

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some operations near Aldershot, the leader of a Cavalry squadron claimed to have surprised and captured a party of the enemy, who were halted on the far side of a bank and ditch. The umpire gave a decision against the Cavalry, saying that no horses would get over the fence. Sir Evelyn at once told the squadron leader that he might try it, and added, 'I will give every man a shilling who gets over.' He was delighted to see the whole squadron, with the exception of one horse, clear the fence in line. He sent a cheque with his congratulations to the squadron leader.

Sir Evelyn had wonderful hands on a horse, and there always appeared to be mutual confidence between him and any horse he rode. On one occasion at Aldershot, when the Cavalry horses selected for casting, were brought up for his inspection, one good looking horse was described as 'vicious and dangerous to ride,' and the officer in charge said that no one in the regiment could do anything with him. Sir Evelyn said, 'I will try him,' and having mounted, rode quietly away, the horse going perfectly with him.

In 1890 he organized and directed the manœuvres of a Cavalry Division on the Berkshire Downs, where many useful lessons were learnt both with reference to training and equipment. A great effort was made to reduce the weight carried on the horse in marching order. Sir Evelyn, as usual, went into every detail that might bring out any instruction. He specially noticed the tactical skill displayed by Colonel French, 19th Hussars, and later recommended him to represent the Cavalry on the War Office Staff. This was the first army staff appointment held by Field-Marshal Viscount French.

In October, 1893, Sir Evelyn Wood took up the appointment of Quarter-Master General to the Forces, and in 1897 became Adjutant-General. It was a great disappointment to him that he was not able to get out to South Africa for the war in 1899, but at that time there was special need at the War Office for men of his capacity for work and power of organization. He acted as Commander-in-Chief, when Lord Wolseley gave up office in November, 1900, until Lord Roberts returned from South Africa. In October, 1901, he left the War Office to take command of the newly formed II. Army Corps, with headquarters at Salisbury. As he had previously done at Aldershot, Sir Evelyn put his whole energy into the organization and training of the new command, personally inspecting all building sites and training areas.

There were thirteen Yeomanry regiments in his command, and in them he took a special interest, visiting them all yearly, during their training. He was greatly struck with the organization and work of the 'North Devon,' and was particularly pleased when he found that eleven of the officers were Masters, or ex-Masters, of Hounds.

In April, 1903, he was promoted to the rank of Field-Marshal. He received an autograph letter from King Edward saying, 'It has given me the greatest pleasure and satisfaction to promote you to the rank of Field-Marshal, after the long and distinguished services you have rendered for the Crown and country.'

That autumn, in the Army manœuvres, the II. Army Corps was opposed to the I. Army Corps; the latter was under command of Sir John French, who

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magnanimously remarked that he had learnt most of what he knew about his business from Sir Evelyn.

At the end of 1904 Sir Evelyn Wood left Salisbury and, although he was later appointed Colonel of the Royal Horse Guards and Constable of the Tower of London, he did not again hold any active military command. He returned to his native county of Essex, and settled down to the life of a country gentleman. He gave up most of his time in the winter months to fox-hunting, which had always been his favourite sport. Up to the last year of his life, he would ride his own line over any country, often on horses that younger men would not have had the nerve to ride.

His mind remained quite clear up to the end, almost the last words that he was heard to speak before he became unconscious, were, 'My God, my King, my Country,' and no words can better sum up the principles for which he devoted his whole life.

[In the early volumes of the CAVALRY JOURNAL are two articles by the Field-Marshal.]

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SOME NOTES ON A VISIT TO WEST POINT AND CAVALRY UNITS IN U.S.A.

By MAJOR H. B. PROTHEROE SMITH, *late 21st (E.I.) Lancers.*

WITH two establishments conducted on such a different basis as West Point (to which all branches of the States service go) on the one hand, and Sandhurst and Woolwich on the other, it is difficult to draw parallels, especially as the cadets at West Point remain there for four years and are taught to be thoroughly proficient in all the different arms; but possibly some of the following might be worth giving a trial to at Sandhurst, without changing or interfering with the present course of instruction.

1. Marks are given to cadets for conduct and discipline in the following proportion: 1st year cadets 50, 2nd 75, 3rd 100, 4th year 125; offences are divided into seven classes, and for these the following points are deducted: 10, 7, 5, 4, 3, 2, 1. The company commanders are responsible for above.

N.B.—This would seem to tend to teach a man self-respect, &c.

2. When a cadet joins he signs on for eight years, inclusive of his term as a cadet, so that the State gets some return for training him.

3. Field telegraphy is taught, as well as signalling, and made use of practically.

4. The cadets are required to keep their own rooms clean, tidying them up after reveillé, and they are inspected by company officers; slackness, dirty rooms, &c., entails forfeiture of marks mentioned in (1).

Water and removal of slops are the only labours performed by the servants.

N.B.—Above would seem to make a cadet methodical and tidy, and teaches them to have same observed by his subordinates later.

5. Whereas our instructors (or a great many of them) go to Sandhurst or Woolwich when becoming senior, in the States they return to West Point, when possible, four years after graduating, on the supposition that the sooner an officer returns the better qualified he is for his work, and more likely to be in sympathy with the best way of teaching the cadets and gaining their attention.

6. Courses of additional lectures are given to the cadets, including some of the following subjects:—Company records and returns, quartermasters' records and returns, recruiting returns, regimental returns, customs of the service, uniform and field equipments, military etiquette, horse equipment.

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Copies and papers on forms used in the several departments of the Army are given to each cadet, and method given of making out and forwarding same.

7. To give them practical experience, cadets, during their final year, are present at the Sunday morning inspections of each of the detachments of privates, troopers, or sappers, attached for duty at the Academy, so that on passing out they may be *au fait* in these matters.

8. Greater interest is given cadets in shooting, by allowing those who qualify to wear marksmen's badges.

9. In the drawing classes, plans, sections, and elevations of rough housing for a company of Infantry or a squadron of Cavalry are taught.

10. Each class consists of about ten cadets; round the room against the wall are blackboards; two cadets recite, or answer questions from the instructor, two more listen; remaining six are at blackboard writing down headings, on which they will recite or lecture when their turn comes.

Under present rules, as senior officers have to lecture to uniors for promotion and all officers to men, a trial, if feasible, of some such method would seem greatly calculated to give facility to officers to exercise their tabulating powers (and thus teaching an officer to condense his orders clearly), and also to give them greater readiness in lecturing.

11. Cadets in their final year go out for a course of mounted reconnaissance and road-map making for four days, taking field rations and small shelters, and are practised in pitching and striking camp, cooking field rations, guards, and sentries, care and grooming of horses, &c.

12. The Commandant has recommended a practice march of the cadets for ten days, under service conditions, the command being organised into a battalion, one troop of Cavalry, two machine guns, and an engineer detachment for small road repairs, &c., all duties to be performed by cadets.

13. Fencing is given *very* special attention (French style), and the week I was leaving the States a board was being held with a view to teaching both the military and naval cadets the art of jiu-jitsu.

14. The system of physical development is *most* thorough and worthy of special attention. The medical officer has the scale that a cadet should be on joining, in proportion to his height and weight, and this is marked down on a chart for each cadet, and then a chart is drawn of the cadet's actual measurements. Should a cadet not be of the proper development in any portion of his body, he joins such class as has special exercises to improve those deficiencies. The doctor examines the cadets, and makes out a new chart for each monthly; and the result is certainly wonderful, showing how very uniform under this system the development of each cadet becomes.

I spent three days at West Point, and one could not fail to be impressed with how very thorough their training is throughout from start to finish, even down to the most minute detail. I have said nothing about the riding-school as that is included in what I have written on the Cavalry. The remarks of the Commandant show the basis on which the work is carried out. He says:

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'Our aim is to include in the course every requirement and duty that a military man is called upon to perform and be proficient in as an instructor of enlisted men, based on the principle that an officer, to be an efficient instructor and leader, must be practically and intimately acquainted with all the details of his work, and personally able to perform them. With this end in view, the programme includes the actual performance of all duties an enlisted man has to perform, and the last year is made, as far as practicable, of a normal character, using cadets, as it were, as assistant instructors, and giving them opportunities for exercising the functions of command, detailing them in turn by roster, for all duties, drills and exercises. In tactics the work embraces Infantry, Cavalry, and Artillery drill and exercises, minor tactical exercises, target practice, tent pitching, field intrenching, mountain gun and pack instruction, practice marches of the three arms, and field exercises, stable management, and company administration.'

Two remarks by the board of visitors :—1. The board commands the section system which prevails, under which each cadet is expected to recite daily in every subject of instruction in the class of which he is a member. Such a system is calculated to gain the very best results, see (10).

2. The examinations, as conducted, furnish further proof of the thoroughness and efficiency of the instruction. The board commends the plan of *excluding* from final examination the cadets whose term average is not below 2.5 in a possible maximum of 3. Such a plan puts a premium upon good term work, encourages persistent effort on the part of the cadet, and leads to the formation of habits of study calculated to establish the highest state of efficiency among the cadets. On the other hand, those who fall below the 2.5 mark have an opportunity to increase the term mark by passing a good final examination. In such cases an incentive is thus presented the cadets to continue their efforts to the end of the term.

Undoubtedly one of the most perfectly arranged departments at West Point is the Cadets' mess. Everything is done to reduce labour to a minimum, and although about 540 cadets, the only people employed in the kitchen are two cooks, two kitchen men, two potato peelers, fireman, floorman, and two bakers.

The Academy is also provided with the ordinary equipment for camping and cooking, so that cadets can move out into camp at any moment.

The following labour-saving devices are used : Potato-peeling machine, peels half bushel of potatoes in four minutes.

A milk sterilising apparatus.

Ice cream made and ice chopped by machinery.

Dishes washed and cutlery polished by machines.

In the bakery, flour stored, sifted, weighed, and kneaded by machinery.

Two 40-tube Chamberland Pasteur filters filter all water used by cadets at meals, and a 10-ton refrigerating machine of the ammonia absorption type does the cooling and makes all the ice from distilled water used in the mess.

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The milk produced from the Academy dairy is sterilised on receipt at mess, and kept at 40° F. until used.

The following four rules might strike a Sandhurst cadet as quaint.

1. No money or liquor is allowed, but each cadet may have a glass of milk at the mid-day meal.
2. Whiskers or moustaches may not be worn.
3. Cadets are required to take a bath at least once every seven days.
4. Cadets playing football may be allowed to wear their hair longer than is ordinarily the case.

The foregoing were a few notes made by me on going through West Point; a visitor cannot fail to be impressed by the extremely rigid discipline throughout. Cadets have practically only three hours a day to themselves (including meal time) between 6 a.m. and 10 p.m. They are allowed no money and may not drink liquor, but each cadet is supplied with a glass of milk at lunch. They march to everything, even to their meals; and from results one realises how good the system must be. No officers have their meals with the cadets, the senior cadets being held responsible.

I saw the different cadet classes riding at West Point. When cadets first start they ride on blankets, without stirrups or saddles, they then use a stripped English regimental saddle for some time, with a great deal of gymnastics on the parallel bars and horse to improve their agility, and finally use their own saddle. They are also allowed to go out for voluntary riding, and to play polo, the polo ponies being used in the riding school during the winter. They ride with their stirrups very long indeed, using a double rein instead of the curb that used to be in vogue. The cadets in their last year were very good at trick riding, and compared very favourably with the best of our trick riders at the Military Tournament. At West Point they now have authority to only give commissions in the Cavalry to those cadets whom they consider qualified by temperament, interest in the horse, and physical conformation. As far as I can gather, all horses when first bought are sent over jumps unencumbered, and are not interfered with in any way, and in many cases are put into high timber pens, from which they have to jump out for their feeds.

I next visited the 'A' troop of Cavalry in New York, corresponding to our Yeomanry. They were well mounted, divided up into two squadrons, each squadron consisting of three troops of 100 men, equipped by the State with saddles, bridles, and blankets, and armed with carbine, sabre, and revolver. They really form part of the National Guard. From what I saw of them I considered them decidedly inferior to our Yeomanry.

In Philadelphia I saw one of the six troops of 100 men (60 in peace time) called the First Troop; this is the oldest military volunteer organisation in the United States that has maintained a continuous active military existence, having been raised on November 17, 1774, by twenty-eight members of the Gloucester Foxhunting Club, serving through the War of Independence (during its latter

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period) as General Washington's bodyguard. Eighty of its members gained commissions during the Civil War, and they have sent volunteers on every campaign since that date. The men, though belonging to the National Guard, enlist for seven years instead of three, and are elected by a majority of the members of the troop. They are practically all gentlemen, owning their own horses, averaging about 15.2, armed with carbine, sabre, and revolver.

Could not a troop of this sort be raised in England in each *district*, instead of in each State, as in the United States, to be used for either of the following purposes:

1. So that in case of threatened invasion they could act as scouts in their various districts, with a central point where they could meet yearly and undertake combined movements, spreading out fanways from such centres.

2. Raise four troops, each with sixty gentlemen, under a captain and two subalterns, captains nominated by the War Office, subalterns and members by the troops themselves, raised and equipped at no expense to the State, who would go yearly on manœuvres as generals' orderlies, &c., so that in time of war generals' orderlies would be men of high intelligence, who would have had practice in finding their way about, and would not have to be picked haphazard from any body of mounted troops. If started and kept select, each troop would be, as it were, in competition against the other three, and would be a corps that men would probably be very keen to get into.

I visited a squadron of the 7th U.S. Cavalry at Fort Myer, near Washington; this is supposed to be a very crack corps. They had just moved into new stables, which are very well and roomily built, wood inside with tiled roof, and particularly well ventilated, with seven loose boxes in the centre for sick horses or officers' chargers. Rooms are built at either end for troop saddlery, big chaff-cutting machines in each stable, and trolley lines running along to bring the hay, straw, and corn from the lofts above, with lifts for same from loft to stables. Floors are concrete, and space on right hand side of manger, in which to fit a pail of water. The horses of this particular squadron are kept out daily through the winter, under an open shed, blanketed up, but not clipped, which gave them a somewhat untidy appearance. I was much struck, however, by their hardy looks, well up to weight, good bone, high withers, backs short and straight, and very strong quarters.

Major Nicholson, commanding, an officer of twenty-nine years' varied experience, told me that all their best horses are purchased in Kentucky and Missouri, but that since the South African War they have to pay, on an average, about £30 a head; that they are usually five years old when bought; in weight from 1,000 to 1,100 lb.

In the stables the horses stand quietly next each other by day, with no bales in between, and at night bales are placed between every pair of horses. They were all geldings, with an average height of about 15.3.

The officers' chargers are private property. Major Nicholson said that the present head of U.S. Recruiting is very strict about whom he accepts for the Cavalry, and that only about 10 per cent. of the recruits who come up for Cavalry are accepted, as they realise more and more that for that branch of the

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service a better educated and more highly trained man is necessary. The men all seemed to be *very* good shots with the revolver. Their service blankets seemed very useful, woollen on one side and waterproof on the other; but I do not think their stable management was to be compared with ours.

A regiment consists of fifty-two (including two veterinarians) officers and 816 men, is divided up into three squadrons, each of fifteen officers and 261 men, each squadron into four troops.

A troop is divided up thus:

1 Sergeant-Major.
1 Quartermaster Sergeant.
6 Sergeants.
6 Corporals.
2 Farriers.
1 Saddler.
1 Wagoner.
2 Trumpeters.
43 Privates increased to 78 in war.
2 Cooks.

65 (increased to 100 in war).

Each regiment has a national and regimental standard, which are carried with regimental headquarters, and each troop is supplied with a troop guidon.

Having a trumpeter to each troop seems sound, now that troops are so often detached, and cover such a wide extent of front when reconnoitring.

I was then shown some trick riding, and at that they were very good, *each* troop having a large number of men who could go over jumps standing on a horse, or a leg on the outside horses of a team of three, or (to show their quickness) standing the troop horses together and running right along their backs, making them lie down, &c. Major Nicholson's chief point was to try to make *every* horse in his squadron lie down and keep down, he contending that once that is done the man has gained the superiority over the animal, and that it will be comparatively easy to teach him other things.

As far as I can make out, the Cavalry do not appear to be practised in shooting at long ranges at all.

Re the pay of the officers, an officer *joining* the U.S. Cavalry would appear to get about the same pay as a major in the British Cavalry; and a policeman in New York retires on a pension, after twenty-one years' service (or in some eighteen), which exactly corresponds to that of a major of twenty-five years' service in the British Army.

The men engage for three years, and are allowed to enlist between the ages of twenty-one and thirty-five, and are allowed to re-enlist practically as often as they like for further terms of three years.

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A FEW NOTES ON INDIAN CAVALRY UNIFORM: 1814–1860.

THE uniforms of the troops of the Honourable East India Company always closely resembled, as far as design is concerned, those of the British Army.

Alterations were naturally made in both from time to time; but in many cases those made in the Home Army were not adopted in India until some time afterwards; and it was not until after the government of India had been transferred to the Crown that uniforms of a type more suited to the climate were instituted.

European uniforms were worn by both sides during the Great Mutiny, and it was no unusual sight for the mutineers and the suppressors to be facing each other clad in practically the same dress.

The following notes have been culled from records in the India Office Library, and from contemporary prints; but they do not claim to be by any means complete. The available information is very scanty, and it is doubtful whether complete details exist, at any rate in this country.

The descriptions are mainly confined to the uniforms worn by the British officers of the regiments selected.

BENGAL NATIVE CAVALRY.

In 1814 there were eight native Cavalry regiments in the Bengal Army, belonging to the East India Company.

They wore a short French-grey jacket, laced across the front with white braid (silver lace for the officers), very much like that worn at the beginning of the century by Light Dragoons in the British service, with three rows of ball-buttons (two on the right side and one on the left). White breeches and black knee boots were worn by the officers, and light dragoon helmets. The men wore white overalls, ankle boots, and blue cloth 'bee-hive' shaped caps, with a scroll of white lace across the front, and a white woollen tuft on top.

All the regiments wore dark buff collars laced round the middle, and round cuffs of the same colour laced round the top. The officers' collars and cuffs were laced with silver, with elaborate figuring up the sleeve.

Formerly (in 1809) each regiment was distinguished by different coloured facings, as follows:—1st, blue; 2nd, yellow; 3rd, white; 4th, green; 5th, buff; 6th, grey; 7th and 8th, yellow.

BENGAL LIGHT CAVALRY (11TH REGIMENT).

In 1847 the uniform of the officers of this regiment was as follows:—

A brown fur hussar busby, with a scarlet bag, a gold festoon in front, and gold cap lines with acorns looped on the right shoulder, a vertical osprey plume, with a red bottom and black and white top, and a gilt chin-chain.

A light blue jacket with scarlet collar and cuffs, closely braided across the front

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with silver, and three rows of ball buttons. The collar laced all round, with two rows of narrow lace down the centre, showing a red light; embroidered side-pockets, and a long figure up the sleeve, very much the same as the jacket worn at this period by hussar officers in the British Army. A scarlet and gold barrelled sash was worn, and a silver lace shoulder-belt, with a scarlet central stripe and silver plates and chains. The overalls were dark blue with a broad stripe of silver lace, with a yellow central stripe, down the outward seam. The sword-belt and slings were of similar lace. The sabretache had a dark blue cloth face, edged all round with broad silver lace. In the centre 'B.L.C.' with 'XI.' above, and a scroll below.

The shabraque was of dark blue cloth, bound all round with broad silver lace showing a blue edge, and rounded fore and aft. The front corner was embroidered in silver with 'XI.'; and 'B.L.C.' in a monogram below. The hind quarter was similarly embroidered, but with a scroll superimposed.

No throat ornament was worn on the head-stall.

Madras Native Cavalry.

The Madras Army, like that of Bengal, also had eight native Cavalry regiments in 1814.

They wore red jackets, of similar style and cut to those worn by British Light Dragoons, braided across the front, and with three rows of ball buttons; white leather breeches and knee boots for the officers, and white overalls for the rank and file, with ankle-boots.

Each regiment wore distinctive facings, as follows :—1st, blue, braided with yellow; 2nd, green, with yellow braid; 3rd, buff, with white braid; 4th, orange, with white; 5th, black, with white; 6th, light blue, with white; 7th, yellow, with white; and 8th, lemon, with white. The officers, of course, wore gold or silver lace and embroidery, as the men wore yellow or white braid.

In 1824 the officers wore black leather dragoon helmets, Roman shape, with scarlet horse-hair plumes along the crest.

Madras Light Cavalry (1st Regiment).

In 1845 the officers wore a black leather Roman helmet, with the back and front peaks edged with silver metal; a silver radiated plate in front, and foliage up the sides. The front and bottom of the crest were edged with scalloped silver metal, and a scarlet horse-hair plume hung down the back, the front of it carried well forward over the top of the crest.

The jacket was of French-grey cloth, with yellow collar and cuffs, closely laced across the front with silver, showing no light between the bars of lace, and with three rows of ball buttons. The collar was laced with silver, top and bottom, with a line of silver tracing braid below; a long figure of silver embroidery up the sleeves, and an embroidered pocket on each side of the jacket. A crimson and gold girdle was worn with it. The overalls were of dark blue cloth, with a double line of silver lace up the outward seam. The shoulder belt was of silver lace, with

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silver plates, chains, and prickers; and the sword-belt and slings were of silver lace, with a yellow central stripe.

The sabretache had a French-grey cloth face, edged all round with silver lace. In the centre was an embroidered 'V.R.' surmounted by a gold (royal) crown. Below it was a star, with two scrolls at the bottom corners, one inscribed 'Ava' and the other 'Mysore,' with silver foliage along the bottom of the face.

A light blue cloth cloak-case, with round ends edged with silver lace, and 'I.L.C.' in the centre, was carried behind the saddle; and a small blue saddle cloth was worn, with square corners, edged with broad silver lace, but without any embroidery on it. No throat ornament was worn on the harness.

The men were similarly dressed, but with white braid on the front of the jacket, showing an equal light of blue between the loops; the cuffs braided with two lines, with a crow's foot on the upper one. They wore red 'bee-hive' shaped caps, with white plaited cord festoons in front and rear, and a large white woollen tuft on top; silver plated cheek-scales, and a round white figure in front.

In 1848 the officers wore a black beaver light dragoon shako, with a band of broad silver lace round the top; a silver metal-bound peak, and a large silver Maltese cross in front with a silver chin-chain and rose ornaments at the sides. Gold cap lines, with a large tassel on the right side, looped on the left shoulder with flounders at the ends, and passed round the neck, with a gold plaited festoon across the front of the shako.

The jacket was of French-grey cloth closely laced with silver across the front, showing no light between the loops, and with four rows of ball buttons. The collar was double laced all round and the pointed cuffs had a long embroidered device up the arms. A silver lace shoulder-belt, with a yellow silk central stripe and silver plates and chains, was worn. A crimson and gold barrelled sash, with crimson cords and gold tassels, was worn round the waist. The overalls were dark blue with a stripe of broad silver lace down the outside seams.

The horse furniture included a leopard skin saddle-cover edged with silver fringe, and a dark blue shabraque, angular in front and pointed behind, edged all round with broad silver lace, with a gold Royal crown at each end, and 'M.L.C.' in a monogram, surrounded by laurels, with the addition on the hind quarter of profuse silver scrolls, foliage, etc. A white horse-hair throat ornament was worn.

The Governor's Body-Guard (Madras).

The officers wore a scarlet cloth shako, with a broad band of silver lace round the top; a silver lace rosette with a button in the centre; a gilt plume socket, and a large black feather plume; a silver embroidered star-wheel in front, and silver cheek-scales, with rose ornaments at the ends. Gold cap-lines, passed twice round the shako and fastened on the right shoulder, with flounders at the ends.

Their jacket was scarlet with collar and cuffs of the same colour, closely laced down the front with silver braid, and three rows of ball buttons. The collar was

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laced and embroidered all round, and there was a long embroidered figure up the sleeves and an embroidered pocket at each side.

A gold and crimson girdle was worn ; and a silver lace shoulder-belt with scarlet edges, silver plates, chains, and prickers. The sword-belt and slings were of silver lace. Light blue overalls, with a stripe of silver lace down the outside, were worn in full dress. The scarlet-faced sabretache was edged all round with silver lace and had in the centre a large monogram surmounted by a crown, with a star below the cypher, all in silver embroidery.

The shabraque was of scarlet cloth, edged with broad silver lace, showing a scarlet edge ; rounded in front and pointed behind. The rear corner was ornamented with a large monogram in silver, surmounted by a Royal crown. The round scarlet cloth cloak-case had a silver lace circle on the end, with a crown inside it. The saddle cover was a complete leopard skin, with legs on either side and the head over the cloak-case.

The men wore red ' bee-hive ' shaped caps, with white embroidery.

Bombay Native Cavalry.

In 1819 the uniform of the native Cavalry was ordered to be French-grey, with orange facings ; lace or embroidery, silver for the officers, and white for the rank and file. The officers to wear ' helmet caps,' with red horse-hair plumes.

In 1844 the officers' uniform was as follows :—A black beaver light dragoon shako, with parallel sides ; a broad band of silver lace round the top, and a narrower one at the bottom and along the front of the peak. A large silver Maltese cross was worn in front, with gilt edging and gilt rays between the arms ; gold cap-lines and a large crimson and white feather plume.

A French-grey jacket, with white collar and cuffs, profusely laced across the front with silver braid, and a narrow tracery between the outer ends of the loops ; with four rows of ball buttons. A long silver embroidered figure up the sleeves. A white leather shoulder-belt ; and a gold and crimson barrelled sash. French-grey overalls, with two rows of silver lace down the outer seams.

A white leather sword-belt and slings, and a sabretache with a French-grey cloth face, edged all round with silver lace. In the centre ' B.L.C.' in silver embroidery surmounted by a star ; below, two scrolls and laurel branches.

The horse-furniture comprised a dark blue cloth shabraque, pointed before and behind, with a silver tassel at the rear corner, and edged all round with broad silver lace. The fore corner was embroidered in silver with ' B.L.C.' surrounded by olive branches, with a gold Royal crown above. A white horse-hair throat ornament was worn.

Alterations were made in the uniform in 1845 as follows :—A similar black beaver light dragoon shako was worn, with a plain silver Maltese cross in front, a broad silver lace band round the top, and silver scales tied up in front ; a black leather chin-strap, and a peak bound with silver metal. Gold cap-lines with flounders

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looped on the left shoulder; gold tassels on the right-hand top side of the shako, with a plaited gold festoon across the front. A light blue jacket, with bars of silver lace placed close together across the front, with no light showing between them, and three rows of silver ball buttons. Scarlet collar and cuffs, the former laced round the edges, with tracery in the middle, and a long silver embroidered figure up the sleeve. A silver laced shoulder-belt, with scarlet edges and central stripe, and gilt plate and chains; and a crimson and gold girdle. Dark blue overalls, with two stripes of silver lace up the outer seams were worn. The silver sword-belt and slings had a yellow central stripe. The sabretache had a dark blue cloth face, laced all round with silver. In the centre a large double monogram, with 'VII.' above, and below a scarlet scroll and silver foliage.

The shabraque was of dark blue cloth, with rounded corners, edged all round with broad silver lace with a blue outer edge. The front and rear corners were embroidered in silver, with a double monogram and a scarlet scroll and foliage below. No throat ornament was worn.

Bombay Lancers.

In 1846 the uniform was as follows:—A scarlet topped lance-cap, with gold lace up the angles and across the top, also on the body of the cap. A silver and gilt radiated plate in front; a gold and crimson plume boss, with a large black feather plume rising from a gilt metal socket; gold cap-lines with flounders looped on the right shoulder. A double-breasted blue cloth coatee, with two rows of silver buttons down the front; silver embroidered collar, and large silver epaulettes with bullion fringe. The cap-lines were worn round the body from right to left. The girdle was of crimson and gold, and the cross-belt of silver lace, with prickers and chains. The sword-belt and slings were of silver lace; and white gauntlets were worn. The overalls were of blue cloth with two lines of silver lace up the outward seams.

The sabretache had a dark blue cloth face, edged all round with broad silver lace. In the centre 'B.Y.C.,' with two crossed lances with red and white pennons, with a star above; below, two silver scrolls and foliage.

The horse-furniture comprised a dark blue cloth shabraque with an angular front, and pointed hind-quarter, with a silver tassel. It was edged all round with broad silver lace, showing a blue outer edge. The front corner was embroidered in silver with 'B.Y.C.' surrounded by olive branches, and with a gold Royal crown above. The rear corner had a gold crown embroidered on it, with silver crossed lances with red and white pennons below; and 'B.Y.C.' surrounded by olive branches and laurels; a scroll below, and beneath it a star. A white horse-hair throat ornament was worn.

Scinde Irregular Horse.

The European officers in 1846 wore a black leather dragoon helmet, with silver mounts and a black horse-hair central plume. A green cloth silver laced jacket

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and overalls; a black and silver barrelled sash, cords and tassels; and a green and silver laced sabretache and shabraque.

The shoulder-belt, sword-belt and slings were of black leather, with silver mounts, and the sword had a mameluke hilt. A black sheepskin saddle cover was worn, edged with red scalloped cloth.

THE NIZAM'S ARMY: 3RD CAVALRY.

The European officers of the regiment wore a black Roman helmet with gilt mountings, gilt pointed cheek-scales, and a scarlet plume similar to that worn by the Madras Light Cavalry, previously described. A green cloth jacket, with collar and cuffs of the same, closely laced down the front with gold, showing no light between the loops, and three rows of ball buttons; large gold embroidered figures up the sleeves. Green overalls, with a stripe of gold lace down the outside. A gold and crimson barrelled sash; with crimson cords and gold and crimson tassels. A black leather cross-belt and pouch, with gilt plates, prickers and chains; black leather sword-belt and slings.

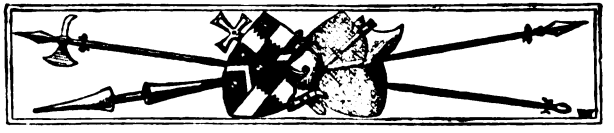
The horse-furniture included a green cloth shabraque, rounded fore and aft, and edged all round with broad gold lace. The corners ornamented with a gold crescent, with 'V.C.D.' below it. A scarlet horse-hair throat ornament was worn

Their undress uniform consisted of a dark green cloth round-topped forage-cap, with a gold edged peak, gold welts round the top and up the sides, and a gold band round the bottom. A green cloth jacket, with a white collar and white pointed cuffs edged all round with gold lace. Two broad lines of gold lace down the front edges of the jacket. Gold epaulettes, without bullions, green overalls, with two white stripes down the outer seams. A black leather shoulder-belt, with gilt mounts and chains; and a black waist-belt, edged with gold and crimson.

The shabraque was of green cloth, with rounded corners, edged all round with broad black braid, with a narrow white inner line. A scarlet horse-hair throat ornament was worn, as in full dress.

I have selected a few typical uniforms, but a description of all, even if it was possible to obtain details of them, would require very much more than the space available.

D. HASTINGS IRWIN.



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THE ARGENTINE POLO PONY IN 1920.

By MAJOR-GENERAL M. F. RIMMINGTON, C.B., C.V.O.

WE can sum up the history of this pony during the last thirty years as follows :—

In the Nineties there were a few, a very few, good ponies brought over by Porteous, Balfour, Scott Robson, and others, who picked them over in the Argentine and bought only the best. There were, in addition, a number of criollo (native) cow ponies, which could play a slow, sticky game well enough for beginners, and could be bought very cheap, at anything from £25 to £45 at auction in London.

After the South African war, ponies were imported for sale or brought by Argentine polo players, who came over here to take part in tournaments; needless to say the latter included fast, up to weight and, in most cases, high-class tournament ponies, worth £200 to £300. As the cost of bringing them over was small, probably under £12 for freight and expenses, it was still worth while to bring cattle ponies of no value for high class polo. These, purchased at about £10 in the Argentine, were bought by various players as easy to play on, and suitable for the "bumble-puppy" class of polo.

The position is somewhat different in the present third decade, as I shall endeavour to show.

Polo has languished in the Argentine during the War, owing to practically every Britisher coming to Europe to fight for his country; and many a gallant polo player will never return to South America.

A certain number of Argentines have, however, been playing during the last five years, and their ponies have been picked over, and a good

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many sent to Spain. In 1917, I am told, the general price given for these ponies to go to Spain was £70. In 1918 the price rose to £100, and, as not much objection was made to this, the price asked in 1919 was £150 to £200.

It will be seen from this that the owners asked and, in some cases, got very high prices for ponies which had cost them, if not bred on their own estate, about an outside price of 300 dollars (£30), and nothing for their keep. But as some of the owners contemplate coming over to England to play, and have, in most cases, coined money through the "rise" in value of stock, it is not very astounding that the prices asked should have leapt up. As in Ireland, there is an asking and a selling price.

About nine months ago, twenty-five polo ponies of a good stamp were purchased at the average price of £70, at places some distance from Buenos Aires. The prices asked at the last tournament at Hurlingham (Buenos Aires), in 1919, were from £80 to £200, for ponies playing in the tournament, and a few changed hands.

It must be remembered that the price of ponies is enhanced by the low exchange rate of the Bradbury in South America; it is now worth three-quarters of what it formerly was.

The cost of freight used to be anything from £5 to £12. It is now £20, which does not include many items which may very well bring the actual cost up to £30 to £35.

It is probable that Messrs. Balfour, Gray and others, who breed a first-rate stamp of pony, will import a fair number of their home bred polo ponies this spring. Some of the breeders of polo ponies in the Argentine have taken infinite trouble to pick over their mares and get good thoroughbred stallions for them and have, in twenty years or more, so standardized them to the right stamp of polo pony that after seeing a hundred ponies or so at the Hurlingham (Buenos Aires) tournament, one seemed almost able to say 'This is a "Bradney,"' 'That is one of "Windy Gray's,"' and so on.

Now Don Miguel Martinez de Hoz is starting a polo pony stud with 150 mares, apportioned in five different troops by colours to five stallions. If as great a measure of success attends this as had attended his other

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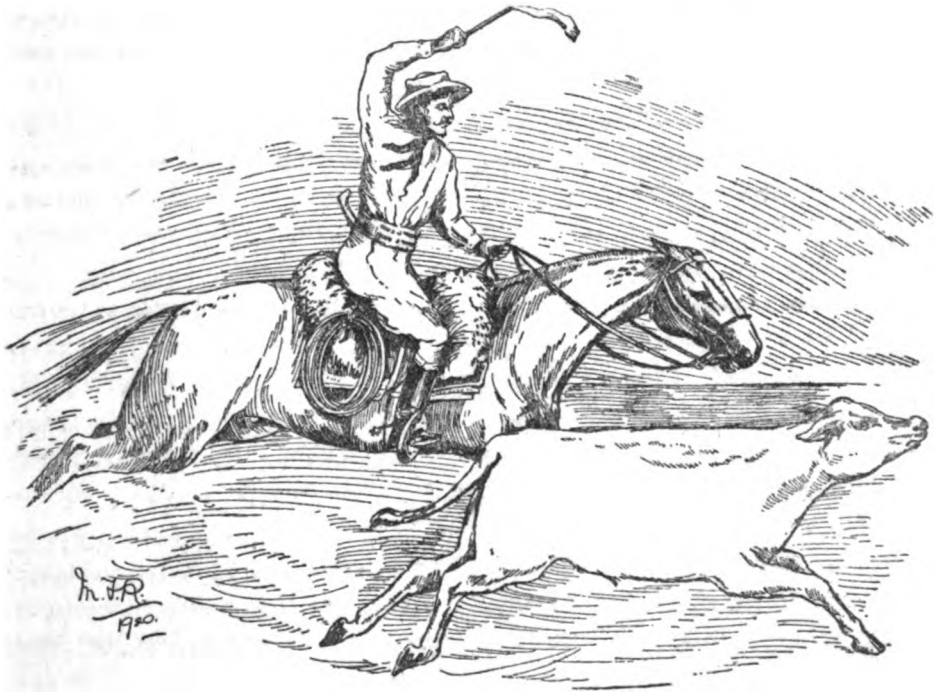
breeding experiments in hackneys, shorthorns, sheep, and thoroughbred horses (thirty-eight two-year olds sold for upwards of £50,000 in 1919), we may expect some first-class ponies from this stud later.

Above it is stated that ponies which were sold for high prices had probably not cost their owners, at the outside, more than £30. Well, that is an outside price, out on the camp, where anything from £10 to £20 is the price of a good pony—one which may have won a race at one of the numberless camp races, which take place on Sundays, with an accompaniment of drinking, gambling, and occasionally, a little long knife fighting. As these races are usually for a very short distance, or purely matches ridden bareback or on a sheepskin, the ponies engaged in them learn to start well. They also learn to stop when pulled up, as there are innumerable starts in a match, until *both* jockeys cry ' vamos,' ' let us go '—then they are off and ride the course. This is good training for a polo pony, but better far is ' cattle parting.' This I regard as nearly as good as a game of polo. A mob of 200 to 300 steers are quietly



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driven to a corner of the wire fenced paddock. There about four or five mounted peons keep them in a fairly close mob, whilst the headman picks out those selected for the ' freezer ' or those not suitable, whichever is the less number in the mob, for ' parting.'

When he points one out to you, you follow it till you get it near the outside of the mob and crossing your front, when you push your horse alongside it and ' ride it out ' of the mob. That is comparatively simple, but it is when the steer tries to break back that you get the genuine training for polo, now turning to stop him this way, then that, and finally getting your pony's shoulder against his side, you ' binge ' him away from the mob. Meantime the mob or individual steers are trying to get away and must be held back by the peons. If one gets away from his mob he must be rounded up, which entails some sharp bursts and sudden turns and stops, excellent training for polo.

Twenty years ago I used to chase a lively young donkey in a Cavalry riding school, but I could never get quite the same sort of effect as in this game. As a steer gallops down parallel to the wire you will see a peon charge at an angle of 70 degrees to the wire to head him off, and pull his pony up within a foot of the wire.

I am not an admirer of the rougher methods of Argentine horse training, and I agree with a polo pony breeder there, who told me that he never allowed a domador (horse-breaker) of his to put a bit on one of his polo ponies—a piece of leather or soft rag tied round the lower jaw is the substitute used with most young horses.

My advice to buyers of Argentine ponies for polo would be, to examine their eyes carefully and to beware of laminitis. The latter is apt to arise from the month's voyage on board ship, and from neglect, when landed, to give their feet time gradually to get over this before working them. Like most imported horses they are usually sound ; as it is not worth while to ship any with a screw loose.

One of the largest importers of polo ponies from Argentine told me that he invariably had ponies inoculated on arrival here for influenza and said he regarded it as essential. I consider it a wise precaution.

Ponies arriving from the other hemisphere, and, amongst other things, with thick coats of hair, take some time to acclimatise. It is a

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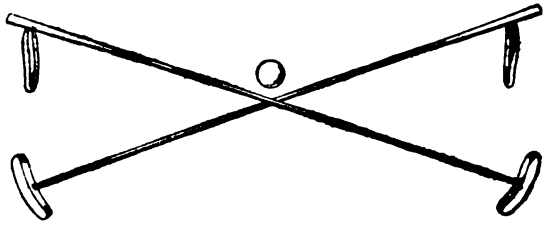
question if they are ever quite fit during their first season. As regards their breeding, one-sixteenth of a really good criollo (native) mare's blood in a polo pony is probably an advantage, the rest should be English thoroughbred, or possibly a strain of Arab blood. Even then the ugly Roman nose, hideous face, and wall eyes may tell too plainly that 'his mother was not a lady.' But with heads as ugly as a Chinese mask, I have had Argentine polo ponies which could race, with fourteen stone up, down the ground level with an English thoroughbred pony and bump the latter into a blue funk. So, on the whole, I would never judge an Argentine pony to be out of it, if his hocks are well under him and he stands over plenty of ground with good shoulders and limbs.



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RECENT PUBLICATIONS.

In the *Revue Militaire Generale* for the months of November and December, Lieutenant-Colonel R. Boullaire addresses to his brother officers of the 2nd Hussars the question, 'What are the uses of Cavalry?' and then proceeds to show that the work of which the mounted arm is capable has increased rather than diminished, and that by acting in combination with the new technical and mechanical means of warfare which of recent years have come into existence, the rôle of Cavalry may acquire an importance far exceeding that claimed for it even in the palmiest days of that arm.

Colonel Boullaire suggests that the long period of trench warfare imposed on the belligerents in the last Great War, the improved accuracy of fire and the many new engines whereby it was projected, all seemed to tend at first sight to restrict the use of Cavalry or even to supplant that arm of the service, until there was an impression abroad that the day for the employment of large Cavalry bodies was past, and that there could no longer be any place for anything but divisional or corps Cavalry, employed in bodies of, at most, the strength of a regiment—the largest unit, it has been maintained, which could by any possibility act usefully in modern battle. And this tendency, the writer declares, was already noticeable as far back as 1910 and 1911, when, with the appearance of the first aeroplanes, it was considered that these would to a great extent take the place of Cavalry.

Since the mounted arm during the Great War had no opportunity of performing any great deed or deeds which appeal to the imagination, are we, therefore, the writer asks, to conclude that it has become useless or superfluous? He answers his question decisively in the negative, and then proceeds to glance over the operations as a whole and to appraise their results, remarking that all that the High Command had asked of it the arm has performed, that it did all that could fairly be expected, and often in such manner as to surpass anything that could have been hoped for.

Colonel Boullaire claims that in the early days, during the period of screening and concentration, the opposing Cavalry was checked and thrown back, that even in the darkest hours of the retreat the German horsemen could take no liberties; while when the Allied offensive commenced the Cavalry successfully penetrated the enemy's intentions, covered our movements, finally barring the northern roads and definitely immobilising the opponent. The writer recalls all that the Cavalry did, whether mounted or dismounted, up to the date of the prelude to what our Allies call 'la bataille de France,' when from March to July, wherever the danger was greatest, where the front was giving way, thither rode the Cavalry—first to the Oise and the Avre; then to the north, to Kemmel; later to the south, to the Aisne, the Ourcq and the Marne; holding everywhere the weakened front until Infantry reinforcements could arrive in motor lorries, and fighting alongside the foot-soldiers until the position was re-established. Then, when finally the tide turned and the great German retreat began, the Cavalry followed hard upon the

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heels of the enemy, in bodies small and great, equipped with new-fangled quick-firing weapons of all kinds and calibres, and hunted him relentlessly until the Armistice called a halt.

We are shown how the Cavalry was transformed during the War; how adaptable it showed itself from 1915 onwards; how keenly it accepted anything novel that could give power to its efforts; how it rivalled the Infantry in learning the use of all the various engines of war; what magnificent dismounted bodies were formed from the Cavalry; how it gave to the Infantry the best of its officers and non-commissioned officers, or to the Air Service and the Tank Corps. One thing only was denied to the mounted arm—the final pursuit, the real crown of victory.

That the Cavalry could have done even better than it did—given a more suitable armament, better methods of employment, means more suited to the conditions of the War—cannot be denied. But in this War everybody learnt something new, and there is no arm which did not by degrees review and recast all its pre-War methods and conceptions of the art. "But we shall know better, we French Cavalry-men, next time, and the initial conditions in the next war will be very different to those of 1914. If only diplomacy maintains solid the alliances of to-day, our front of attack will include the whole of Germany's frontiers, and nowhere will she be able to offer a continuous front. There will be between us a wide belt of unprotected country, a no-man's-land, which each side will endeavour to pass; for us there must be always kept in readiness a force equipped with all possible modern weapons and warlike appliances, and this can only be supplied by the Cavalry, whose rôle, far from being diminished, will be more important than ever, while for the huge fronts of the conflicts of the future larger bodies than ever before will be required, all trained to manœuvre and fight." Mechanically drawn guns and machine guns, light tanks and aeroplanes will be the indispensable adjuncts of Cavalry; the horse and the machine must work with and for each other, they are linked together and each must support the other. The fire fight will be the normal action, the horse rather a means of ensuring surprise and assisting manœuvre; there will still be mounted combats, but fire will check or complete a success.

While the progress in armaments has made and will continue to make the task of the Cavalry more difficult than ever, it has at the same time at least doubled its power of offence and its capacity for resistance; while it has bestowed upon it the means of further developing its spirit of enterprise and daring, since it can now strike harder and with a longer arm while not relying, as of old, upon the close support of the Infantry.

The Cavalry must not rest upon its laurels; it must accept and test everything that is new, see how it can make use of it; how draw profit and strength from it, so long at least as such add to the offensive and defensive power of the mounted arm without in any degree affecting its ability to manœuvre.

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NOTES.

The 7th (Queen's Own) Hussars. (Two volumes.) London: Royal United Service Institution. Price three guineas.

This is an exhaustive history of the regiment from the date of its raising in 1690 to the present time, and is published in two volumes. The author of the work is the late Mr. C. R. B. Barrett, and we must heartily congratulate the gallant regiment on the skilful manner in which this history has been given to the public; it is quite one of the best modern regimental histories yet produced.

The first volume contains the military history of the regiment from its incorporation down to the conclusion of the Waterloo campaign, and the second carries on the history down to the present day, and also contains sundry subsidiary chapters and three registers of officers. There is an index attached to each volume.

The history begins with the origin of the regiment, which was formed from independent troops of horse, which had been raised in Scotland in 1688. It recounts the services of the regiment in the various campaigns in Flanders and Germany during the years 1694-97, 1711-13, 1742-49, 1760-63, 1793-95, and 1799. During these periods the regiment fought many times and eft. The chief battles included the historic fields of Dettingen, Fontenoy, Warburg, Beaumont, and Willems, besides a long list of minor affairs such as sieges and skirmishes. In addition to this it records the services of the regiment during the Jacobite Rebellion of 1715. The rigours and hardships of the Coruña campaign, in 1808, and the services of the regiment five years later in the Peninsula are also faithfully recorded, and its services at Genappe and at Waterloo are carefully gone into, where the regiment's casualties were very heavy. The services of the regiment in Canada, in 1838, and again in India from 1857; and its strenuous services during the Mutiny campaign, are treated equally well. There is a chapter devoted to the contingent of the regiment which formed a part of the Light Camel Corps, in the Nile expedition of 1884, and the Matabeleland and Mashonaland campaigns are also dealt with. In addition to the accounts of the regiment's military achievements, Mr. Barrett has not neglected its peace services, and this portion of the book has been rendered most interesting by the use the author has made of letters, papers, diaries, anecdotes, &c. Other chapters follow the

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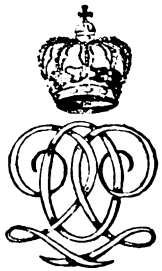
conclusion of the history, the chapter on uniforms being most carefully compiled; the others are the arms, guidons, band, regimental medals and sobriquets, the regimental plate, and the last chapter includes a very interesting account of polo and steeplechasing in the 7th Hussars.

The volume is profusely illustrated, the majority of the ten plates in colour having been executed by Mr. Harry Payne, the well-known military artist, which depict incidents which have occurred in the war services of the regiment, one of which—the engagement at Shabkadr, against the Mohmands in 1864—is reproduced in colour in this issue of the CAVALRY JOURNAL. There are seventy-one plates in monochrome and numerous line drawings, also a large number of excellent maps and plans. The appendices contain three lists of the officers who have served in the regiment—namely, those from 1690-1714, and those from 1715 to the abolition of purchase, and the third list from 1871 to 1914.

The work has been printed by Messrs. Spottiswoode and Company, which factor will alone speak for the beautiful manner in which the book has been produced; and we should like to draw special attention to the tail-pieces of each chapter, in many of which are depicted specimens of the medals which have been gained by the regiment in every campaign in which it took part, when such issue was made, with one omission, the Chartered Company's medal for Rhodesia. At the end of the work special reference is made to the Royal United Service Institution, where the history was compiled.

A.L.



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FRENCH AND GERMAN CAVALRY ON THE MARNE IN 1914.

THE *Militar-Wochenblatt* of January 14 of this year contains a review by 'M' of a book recently published in Paris by J. Héthay entitled 'Le rôle de la cavalerie francaise à l'aile gauche de la première bataille de la Marne.' The reviewer begins with a plaint that the military writers of the Entente severally claim that, militarily and morally, the western powers throughout 'stood over' the Central armies, whereas 'M' seeks to show that whatever moral superiority may be discerned is clearly traceable to the numerical superiority which the Entente possessed from the very beginning of the War!

'M' remarks that M. Héthay repeatedly states that the German Cavalry continually declined the mounted combat and invariably retired behind the shelter of their Infantry, so that the French Cavalry Divisions were constantly confronted by cannon and machine guns, and had more frequently to meet cyclists than mounted men. 'M' replies that the German Cavalry men made precisely the same complaint about the French, and suggests that it is fair to assume that on neither side was anything of the mounted spirit wanting, but that each was influenced in its action by the nature of the country and the general advance in armament. These did and always will restrict what the mounted man rightly regards as his legitimate methods of warfare.

Even when certain squadrons withdrew, with what seemed needless celerity, this ought not, the reviewer holds, to be regarded as a proof of want of morale, since the right of a Cavalry body to use the speed of its mounts to escape from an unfavourable situation has from of old been looked upon as incontestable. In Roumania in 1916 the German horsemen showed they could attack mounted when the need arose and the situation allowed of such action.

'M' then refers to the references made in Héthay's book to the account of the raids carried out by the 5th French Cavalry Division in the rear of the First German Army from September 5 to 10, 1914, and remarks that while one can understand a Frenchman's pride in the achievement, the author is quite mistaken in imagining that such action had any appreciable influence on the breaking off of action at the Ourcq by the Army Cavalry of the First German Army. 'M' repels all the claims made by Héthay, and considers that the French Cavalry Division might have inflicted far greater losses on the retreating Germans if, instead of moving west over the Oise, it had marched north behind the Aisne and there again engaged the First Army. He then takes certain of Héthay's statements *seriatim* and endeavours to show that in order to prove the claims he has made of the moral and military superiority of the French Cavalry, that author has done but scant justice to their opponents, and in some cases has been guilty of ignorance of fact.

The German writer then proceeds to make comparisons as to the relative efficiency of the opposing Cavalries. He says that already at the end of August Sordet's Cavalry Corps was so completely *erledigt* that it had to be withdrawn to Versailles to refit, leaving only a provisional Cavalry Division opposed to the Germans. Not until September 7 was it again in action with the First German Army. On the German side, on the other hand, not one single Cavalry Division, says 'M,' had

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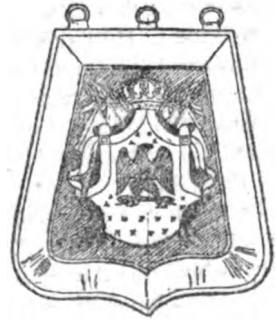
to be withdrawn from the field as long as the war of movement lasted. Only Marwitz's Cavalry Corps was obliged to be halted on September 4 for want of shoes, but on the 5th it was again at the front, while on the 6th two of its divisions, threatened in rear by the British Cavalry Division and Conneau's Cavalry Corps, practically brought the advance of the British Army to a halt, and screened the retirement of the German IInd and IVth Corps in a wholly splendid manner.

On September 7 and 8 the Cavalry corps of Marwitz and Richthofen hindered the British from pushing into the gap between the First and Second German Armies. The three Divisions of which these Corps consisted could not, of course, themselves wholly fill the gap; but on September 9 Marwitz, with but slight support owing to the retreat of the IXth and IIIrd Army Corps, kept the whole English Army so long in check that it could take no part whatever in the Ourcq battle.

These are achievements which the German writer considers will well bear comparison with anything done by the French Cavalry; that the assistance of the rifle battalions made them in some cases possible is no reflection on the efficiency of the mounted arm, but only shows that the German Cavalry was more up-to-date than was the French both in regard to armament and manner of employment.



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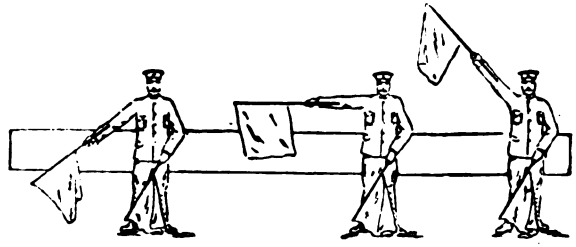
THE CAVALRY BENEFIT ASSOCIATION.

THE Association now administers the Aid Societies of the following regiments :—

3rd Dragoon Guards, 4th Dragoon Guards, 1st Dragoons, 3rd Hussars, 7th Hussars, 9th Lancers, 11th Hussars, 12th Lancers, 13th Hussars, 14th Hussars, 20th Hussars, and the Cavalry Machine Gun Corps.

The cost of maintaining the officers of the Association for the year 1918-19 was £388, but owing to the enormous increase of prices there must be a substantial increase in the future; but it is hoped that even when new offices have been obtained that the expense for each regiment, whose affairs are administered by the Association, will not exceed £45 a year.



The Chairman of the Association is Major F. D. Tagart, late 18th Hussars, and the Vice-Chairman is Lieutenant-General Sir E. C. Bethune, K.C.B., and each regiment has a representative on the Committee.

The average number of cases which are dealt with in the course of the year is about 900, of whom two-thirds have been assisted with money, hospital letters, convalescent treatment, etc., and not a few men have been placed in situations through the direct efforts of the Association. Many others have had letters given to them which have enabled them to procure employment, but it is difficult to estimate how many such applicants have been successful. Assistance has also been given to the wives and children of applicants.

The Association is very fortunate in having secured such an excellent Secretary in Miss Florence Cross; the regiments concerned are greatly indebted to her for the strenuous work she has, and is, putting in with regard to their affairs. Mr. Hughes (late of the 3rd Hussars) has also proved himself a highly efficient employee, whose heart is in the work.

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CANADA.

The entire military organisation of the Canadian Forces is undergoing reorganisation; until this is completed it is not possible to furnish particulars as to the Cavalry units.

Of the old Cavalry Brigade, the Royal Canadian Dragoons are at present in process of reorganisation; Lord Strathcona's Horse have completed their reorganisation, and the command given to Lieut.-Colonel McDonald, D.S.O.; the headquarters of the regiment is at Calgary. The Fort Garry Horse is being reconstructed, under the command of Colonel P. J. Montague, C.M.G., D.S.O., formerly A.A.Q.M.G. of the 2nd Cavalry Division. The Royal Canadian Horse Artillery are still under the command of Lieut.-Colonel Elkins, D.S.O., with headquarters at Kingston, but is still undergoing reorganisation.

The Cavalry Machine Gun Squadron has been perpetuated as a Militia Unit, with headquarters at Winnipeg, and is commanded by Major McNeill, M.C., who commanded it in France. The smaller units of the brigade have ceased to exist, and the brigade as such is a thing of the past.

Brigadier-General R. W. Paterson, C.M.G., D.S.O. has been offered the command of the Mounted Brigade in the Winnipeg district (M.D. 16), when the same has been formed.

It is doubtful if the reorganisation will be completed in time to do an annual training in 1920, but it is understood that every endeavour will be made to do so.

R.W.P.

The Museum of the Royal United Service Institution has lately acquired, amongst other exhibits, the following old uniforms of Cavalry Regiments:

Officer's full dress Coatee with epaulettes, pouch, sabretache with belt and slings, crimson silk sash, of the 1st Life Guards of the period of 1821.

Officer's Cocked Hat of the same Regiment, previous to the Union (1802).

Full dress Officer's Coatee with shoulder knots and aiguillettes, of the 4th Dragoon Guards, of the period of 1820.

Trumpeter's Coat of the 27th Light Dragoons, of about 1800. This Regiment was raised in 1795, its uniform was French grey with yellow facings, the coat itself is yellow. The Regiment served in St. Domingo, in South Africa and in India. In 1802 it was renumbered 24th Light Dragoons, and was disbanded in 1818. The Regiment was granted the badge of The Elephant circumscribed Hindoostan, for its distinguished services in India.

Levee dress Cocked Hat with White Plume, of the 6th Dragoon Guards (Carabiniers) of 1830.

Officer's Brass Helmet of the 4th Dragoon Guards of 1840.

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SPORTING NOTES.

I AM sure that Cavalry officers in all parts of the world will be pleased to renew acquaintance with the CAVALRY JOURNAL, which has not appeared since the war started. I have been asked to write the Sporting Notes and shall be much obliged if officers quartered abroad would send me notes on sport of any kind which they think would be of interest to officers at home or elsewhere. I should also like to hear from our Allies anything in connection with the sporting efforts of their Cavalry. So many of our officers during the last few years have met foreign Cavalry officers that I am sure it would be of great interest if mention could be made of details of sport in connection with our Allies' Cavalry.

Sport at home of all kinds has been through a very difficult period, but thanks to the efforts of the ladies and the 'old-uns,' many forms of sport have been carried on and it is sincerely to be hoped that we may look forward to a period when sport will take its old place in the life of the nation.

HUNTING.

Owing to most of the Hunt servants joining up and Hunt horses being taken for the Army, Masters of Hounds found themselves in a very difficult position. Later, when the food problem became acute, hounds had to be reduced in numbers and very few puppies were bred. Subscriptions fell off and the cost of everything increased enormously. Foxes had to be kept down and labour could not be got to remove the wire. In spite of everything, we carried on and very few packs of hounds have gone under. For the last few weeks I have heard excellent accounts of good runs in all parts of the country. I am told that more farmers are hunting now than for years past and as they are the backbone of hunting, it is a good sign.

It is to be hoped that the people who asserted that hunting would drop out may find themselves wrong.

Two other causes tending to handicap hunting have arisen, and it is asserted that neither of them ought to have been allowed to have occurred. I allude to the outbreak of rabies in England and the regrettable incidents in the Whadden Chase country. The former has stopped hunting in some parts and might easily have stopped it all over England. More than thirty years ago Mr. Walter Long did away with rabies in this country and for many years we were free from this awful disease. There was little chance of ever having it again if the regulations regarding quarantine

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had been kept to. Unfortunately, dogs were brought into England in such a way as to avoid the quarantine. The majority of people blame flying officers for bringing dogs over in their aeroplanes. The penalty for doing this ought to be made far more severe. Six months' imprisonment without the option of a fine!

As regards the Whadden Chase, it is an impossible state of affairs if anyone can start a new pack of hounds in an old established country. All sport is ruled by what may be called unofficial committees. They have no real power under the law of England, but all sportsmen agree to abide by their decisions. The Jockey Club for Racing, the Hurlingham Committee for Polo, and the Masters of Hounds' Association for Hunting. Both sides in the Whadden Chase country should have placed the matter before the Masters of Hounds' Association, as by the unwritten law they were bound to do, and agreed to regard their decision as final; all this trouble would have been avoided, and the immense damage to the prestige of fox-hunters avoided. Sportsmen should never wash dirty linen in public.*

POINT-TO-POINT.

Point-to-Point Races will not be held in time to be reported in this issue of the CAVALRY JOURNAL.

The Cavalry Brigade at Aldershot are to have a combined meeting. The 4th Dragoon Guards and the 14th Hussars have arranged one for March 17. The R.A. Harriers and Cavalry School on April 3 and the 9th Lancers on April 7.

POLO.

Polo has suffered as all other sports have from the war; but if anything to a greater extent. Some of our best players will never see Hurlingham again, and nearly all the trained Polo ponies went to do their bit at the front.

The Duke of Westminster handed over all his ponies to his Yeomanry regiment. They were eventually taken over by the Remount Department, and ponies that would have fetched hundreds at Tattersall's a few months previously became Government property at Government prices. I wonder if any of them still survive. Many other Polo players did the same. Now the question arises how to replace them and be prepared for the American invasion in 1921?

There has practically been no Polo at any of the well-known Clubs during the war, but this last season (1919) a certain amount of Polo was played; in order to enable players to find mounts, the height limit was done away with.

It was very wisely decided not to hold the Regimental Tournament last year, as it would have been unfair on a great many regiments just back from Germany and possibly under orders for foreign service.

Hurlingham has been going through troublous times and all members will regret the death of Major Egerton-Green, the Secretary and Manager. The absolute ruin of the Club was only just averted, as the local authorities wished to take over

* Since writing the above, both sides agreed to this course being taken, and it is satisfactory to know that decision will be loyally carried out.

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the second Polo ground for building purposes. Thanks to the energy of the committee, headed by their Chairman, Lord Valentia, they were induced to go elsewhere. Everyone will be sorry to hear that Lord Valentia has now retired. It was owing to a letter from him to the American Polo Authorities that they agreed, in a very sporting way, not to challenge for the Cup this year, and we all hope to see some real sporting games at Hurlingham in 1921 and may the best team win!

In the meanwhile an attempt is being made to bring in universal rules for Polo. A sub-committee, composed of Major-General J. Vaughan, Colonel T. Pitman, Mr. Walter Buckmaster, Lieut.-Colonel E. D. Miller, and Major F. W. Barratt, was appointed and they have redrafted the Hurlingham rules and submitted them to the Polo Association of America and the Indian Polo Committee, and all Polo players will hope that they will be agreed to.

Field-Marshal Earl Haig, with his usual energy, has made time to act as chairman of a Hurlingham Committee to decide on the best way to defend the America Polo Cup in 1921. The Committee has decided :—

(*a*) To create a body to which may be entrusted the duty of organizing our resources, so that the Polo team which will represent England in the next contest may be composed of our best players and ponies and be thoroughly well trained ;

(*b*) To make detailed arrangements for playing the matches at Hurlingham.

As these two duties are quite different in character, they will be entrusted to two separate committees. Each committee has definite responsibilities, and will report progress periodically to the Hurlingham Club Committee, which has the entire responsibility for making adequate arrangements for the defence of the Cup.

The duties of the (*a*) committee, composed of gentlemen of the widest Polo experience and representative of the Polo interests of the whole Empire, will be to select players for and arrange training games, as well as test matches ; to make a preliminary list of a suitable number of the best ponies in England or the British Empire ; to secure the services of these ponies by purchase or loan, and to arrange for their disposal after the final match ; and to work out an estimate of the total cost of the undertaking and supervise expenditure incurred in preparations for international matches.

The composition of (*a*) committee is as follows :—Major-General J. Vaughan (Army Polo Committee) (chairman), Mr. W. S. Buckmaster (County Polo Association), Lieut.-Colonel G. W. Hobson (Hurlingham Committee), Brigadier-General Hardress Lloyd (All-Ireland Polo Club), Lieut.-Colonel H. F. Wickham (Indian Polo Association), Major F. W. Barrett (1914 International Team), Major V. N. Lockett (1914 International Team), and Lieut.-Colonel E. D. Miller, with power to add to their number.

The duties of (*b*) committee are chiefly financial, and comprise the provision of grounds, stands, etc., for test matches, stabling, accommodation for teams, and the recommendation for approval of the Hurlingham Committee of a scheme or schemes to provide funds to meet expenses incurred by the (*a*) committee, as well as on account of its own transactions.

The following (*b*) committee has been appointed :—Major C. Peters (chairman),

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Lieut.-Colonel A. A. Duff (Manager of Hurlingham), Captain the Hon. F. E. Guest, M.P., Sir John Ramsden, and Mr. J. B. Young, with power to add to their number.

The chairman of the Hurlingham Club Committee to be an ex-officio member of all committees.

Polo players and others who have ponies which they consider up to international form and wish to sell, either at auction or privately, are requested to notify Mr. L. V. L. Simmonds, secretary, Hurlingham-America Cup Defence Committee, Fulham, S.W.6, when and where such ponies can be seen and tried.

Since writing the above, I hear the Fulham authorities now want to take the whole of Hurlingham for building. This would indeed be a national disaster, and must be vigorously combated.

RACING.

During the latter part of the War no racing was allowed except at Newmarket and no meetings were held under N.H. Rules. A large employer of labour in the North of England told me that in his opinion this was the cause of much of the unrest in the labour world. It sounded impossible, but he went on to state that all the workmen have a hobby of some sort and that the big majority of them went in for racing. In their spare time they would study form and many of them could make as good a handicap as the official handicapper himself. They would put by a few shillings out of their wages to bet with, and when they discovered the good thing, they had their bet. Very few ever exceeded the amount put by for betting and very little harm, if any, was ever done. They were too busy studying the sporting papers to bother their heads about other matters. When racing was done away with their recreation was gone, and they had time to listen to the agitator and Bolshevist, and hence the trouble. There may be something in it.

Since the Armistice, Racing has started again. We have had our Grand National, the Derby, St. Leger, etc. The two outstanding features of last season have been the extraordinary success of Lord Glanely and the record sums yearlings have fetched.

For about nineteen years Sceptre held the record as a yearling: 10,000 guineas. This year at Doncaster Lord Glanely gave 11,500 guineas for a colt by Swynford—Blue Tit. Let us hope this colt will do as well on the racecourse as Sceptre did. Major McCalmont's luck continues and in Tetratema he has a first-class colt.

The Grand Military Meeting is to take place at Sandown on March 20; too late, I'm afraid, for the results to appear in this number.

Let us hope that amongst the soldiers we shall discover some worthy to follow in the footsteps of Roddy Owen, Billy Morris, Wendgy Hope Johnstone, and other good soldier jockeys of the past. I have always been of the opinion that riding in races teaches a man more horsemanship than any other form of riding. He has so often to nurse a tired horse.

A short time ago there was a lot of correspondence in the *Field*, started by a well-known Colonel of Cavalry, advocating riding very short. There are different forms of riding and in some the monkey seat has been proved to be the best; namely, racing on the flat and possibly show jumping. However, for riding over rough

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country, hunting, and steeplechasing, the majority seem against it. For several years before the war the amount of grief over the big fences at Aintree was abnormal. The horses did not fall, but the jockeys fell off. In Glenside's year, he was the only one to finish that had not parted with his jockey at some period of the race. At this time some steeplechase jockeys were trying to copy their brothers on the flat, but I think now they have decided that the monkey seat and the Aintree fence do not agree.

Our officers have been holding race meetings in most parts of the world where they have been quartered. Several very sporting meetings have taken place in the last few months in Belgium. In the occupied parts of Germany our troops have held very successful meetings, combined with sports of all kinds. At Damascus I hear a successful meeting was held, largely attended by the natives.

SHOW JUMPING.

This is a form of sport that I must admit that, for various reasons, I am not greatly enamoured with. It was all very well to hunt a horse one day and take him the next day to the local show. This could be done when the horse's chief business was hunting, but when you pit the ordinary hunter against the horse that has been kept and trained for Show Jumping, the hunter has usually to take a back seat. Olympia, with its crowds, its noise, its bands, its flower beds, is apt to put the ordinary hunter off its work. An officer, if he gets keen on Show Jumping, may keep his horse entirely for that, and miss a good many hunts, because he cannot afford to keep the hunter as well as the jumper. This is wrong—one good hunt is worth all the Show Jumping in the world. Some years ago promoters of shows gave prizes for officers, both singly and as teams. King Edward VII. gave a Cup. These events attracted foreign officers, and they went into them in a most business-like way, buying the best Irish and English horses they could, keeping them entirely for Show Jumping and giving up all their spare time to the game. The result was that they came over here and competed against British officers, mostly mounted on horses that had been kept for hunting and not trained for Show Jumping, with the result, cups and prize money went overseas. This could not be allowed, and a certain number of our officers went out of their way to meet the foreign officer on equal terms, that is to say, on a horse really trained for Show Jumping :—

(1) He has to be trained to jump clean.

(2) He has to get accustomed to jumping by himself and not mind the circus-like surroundings he finds himself in.

(3) Usually a horse hates the band, the crowd, and the unnatural surroundings, and does not do himself credit.

These are all natural to the show jumper, but not to the hunter, hence the impossibility of combining the two, except in quite a few cases.

I do not say that the show jumper may not be a very fine hunter. I knew one horse, The Fox, which was owned by the Managing Editor ; he had won any number of prizes and then came to the conclusion that it was a poor game and used to refuse. He was sold, I believe, to an officer of the 9th Lancers and won their Point-to-Point.

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I do not wish to discourage officers from going in for Show Jumping, but if it means sacrificing hunting for it, I think they make a mistake. I hope, however, we shall have a good team to represent us at Olympia on June 22.

RACQUETS.

Only a few important racquet events were held last year. These included the Public School Championship, the Woolwich and Sandhurst match, and a new event, the Navy Championship. This year there will be a full programme. The season opened on March 1 at Prince's with the Military Doubles Championship, and the Military Singles the following week.

This is one of the best of games, but owing to the expense, and racquet courts being few and far between, it is not played as much as it otherwise would be. Real tennis is affected in the same way.

Fifty years ago racquets were played much more than at the present time; and for hard exercise and quickness of eye there is no better game; a lot of superfluous flesh can be got rid of in a racquet court.

The Service has produced many fine players and we can remember W. Gallway, W. C. Hedley, L. B. Friend, Cooper Key, C. D. King—the two last mentioned played for the Royal Artillery for many years. The 12th Lancers had a pair in Eustace Crawley and J. C. B. Eastwood, who were very hard to beat and won the Doubles on many occasions. Eastwood was also in his school days a very fine under-hand bowler—you never knew when the blessed ball pitched what direction it was going to take.

Crawley was a very fine all-round sportsman, but a bit casual. I remember during South African days he had to take a large draft out. He arrived about ten minutes before the draft paraded, just in time to put the papers into his pocket and receive a large parcel, which contained about £400 in cash, to pay the men on board ship. The draft paraded, was marched off, and the barrack square was empty except for the Adjutant, who, with a sigh of relief at having got rid of about 500 men, turned to go to the Mess for a well-earned whisky and soda. On his way he found on the ground the packet containing the £400, which had been forgotten by the gallant officer. Whisky and soda went to 1,000 to 5. A bike was requisitioned and a still thirstier Adjutant arrived at the station just in time to throw the £400 through the carriage window as the train moved off.

The next best regimental representatives were the Highland Light Infantry pair, H. Balfour Bryant and P. Balfour, who won once. With P. Bramwell Davis the former won on several occasions.

Talking of drafts, the writer had rather an unfortunate experience in Egypt about the time of the Suvla landing. It was at a Divisional Base Depot. Owing to the hot weather several of the staff had gone sick, including that very important man, the Quartermaster. There were over 2,500 Territorials, fresh from England, which kept the remnants of the staff fairly busy. When orders were received to embark 1,850 men, no one was sorry, especially the Adjutant. They were put on board ship and the Embarkation Officer said they sailed at 5 p.m. that day. As the Adjutant was leaving he met the Captain, who informed him the ship had

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a broken propeller and would not leave for at least ten days. On return to camp —telephone bell going like blazes—'Hello, hello.' 'Draft returning to camp this afternoon. Please make arrangements.' Picture the delight of Adjutant.

In Egypt at that time there was a team of exponents of the Spanish game of 'Palotta.' This is a kind of a cross between racquets and real tennis and a very fine game. The local music hall rigged up a court and the audience did a lot of betting on the games. I have never heard of this game in England, but it is most interesting to watch and should, I think, be still better to play.

The 2nd Battalion King's Own Yorkshire Light Infantry were the late holders of the Doubles Championship.

For this year there were eight entries, which included representatives from three Cavalry regiments, viz., Royal Dragoons, 9th Lancers, 4th Dragoon Guards.

DOUBLES RESULTS:

First Round.

Royal Dragoons beat 1st Coldstream Guards.
1st K.R.R.C. ,, 9th Lancers.
3rd R.B. ,, 4th Dragoon Guards.
2nd K.O.Y.L.I. ,, G Batt. R.H.A.

Second Round.

Royal Dragoons beat 1st K.R.R.C.
3rd R.B. ,, 2nd K.O.Y.L.I.

Final.

3rd R.B. beat Royal Dragoons (4—0).

In the Singles, the following regiments were represented: 4th Dragoon Guards, Royal Dragoons, Scots Greys, 9th and 17th Lancers.

SINGLES RESULTS:

1st Round.—Major W. Hattersley-Smith, R.A., beat Lieut. L. F. Marson, 4th D.Gs. (3—2).

2nd Round.—Col. W. Wilson-Johnston, I.A., beat Lieut. G. H. Scott-Chad, Coldstreams (3—0). Major A. C. Luther, K.O.Y.L.I. (w.o.). Lieut. G. H. N. Todd, R.H.A. (w.o.). Major A. J. Sloggett, R.B., beat Major Hattersley-Smith, R.A. (3—0). Lieut. Lord F. Hill, Scots Greys, beat Lieut. P. V. Williams, R.H.A. (3—0). Captain T. O. Jamieson, R.B., beat Captain R. L. Benson, 9th Lrs. (3—0). Lieut. E. F. Bolton, West Surrey (w.o.). Lieut. R. D. Busk, 9th Lrs. (w.o.).

3rd Round.—Sloggett beat Todd (3—0). Luther beat Hill (3—0). Wilson-Johnston beat Jamieson (3—1). Bolton beat Busk (3—1).

4th Round.—Sloggett beat Wilson-Johnston (3—2). Luther beat Bolton (3—0).

Final.—Sloggett beat Luther (3—1).

ALDERSHOT CAVALRY BRIGADE.

Victory Sports.

These successful two days' sports were held in July last to celebrate the signing of the peace. A stupendous programme was drawn up which included every form

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of sport and comprised flat and hurdle races, jumping, tug-of-war, hockey, football (six a side), cricket, boxing, billiards, mounted events, miniature rifle shooting, etc.

A Silver Challenge Cup was provided and points scored for each event. The cup was won by the 4th Reserve Dragoons. The rivalry was very keen and the various contests were interesting and exciting.

The inauguration of the Victory Challenge Cup was a brilliant idea and it is hoped that it will be continued in future years.

Boxing.

The standard of boxing is very good, the most gratifying feature being the number of young soldiers who have taken up the noble art.

A tournament was held in December last; the 3rd Hussars furnished the winning team, with the 4th Hussars in very close attendance. In the Command tournament, which was held subsequently, the 4th Hussars gained the second place.

Cross Country Running.

This form of sport is very popular in the Aldershot Command. Up to the present the two regiments which have done the best are the 17th Lancers and the 13th Hussars, who have both won their respective group competitions in the relay race of twelve miles, and these regiments will, it is hoped, furnish competitors to represent Aldershot for the Army Championship.

Football.

The 4th Hussars are at present the most successful team at Aldershot, and are still in the running for the Cavalry Cup, and meet the 1st Life Guards in the semi-final. The 13th Hussars possess a very good team, having reached the fifth round in the Army Cup.

CAVALRY FOOTBALL ASSOCIATION.

1st Round.

4th Dragoon Guards	beat	14th Hussars	6—0
12th Lancers	,,	6th Dragoon Guards	2—0

2nd Round.

13th Hussars	beat	3rd Hussars	7—2
4th Hussars	,,	17th Lancers	8—0
2nd Life Guards	,,	Royal Horse Guards	1—0
1st Life Guards	,,	Royal Dragoons	4—0
10th Hussars	,,	5th Dragoon Guards	2—0
4th Dragoon Guards	,,	9th Lancers	3—2
12th Lancers	,,	15th Hussars	2—1

7th Hussars scratched to Scots Greys after a tie.

3rd Round.

4th Hussars	beat	13th Hussars	4—0
1st Life Guards	,,	2nd Life Guards	2—0
10th Hussars	,,	4th Dragoon Guards	1—0
12th Lancers	,,	Scots Greys	2—0

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FUTURE EVENTS.

The 1st Cavalry Brigade will hold its Point-to-Point Meeting in the second week in April. There will be six events, which include three regimental races, 3rd Hussars, 4th Hussars, and 13th Hussars.

The 17th Lancers are to furnish the musical ride at the Tournament.

The Aldershot Command Bronze Medal Tournament took place at the end of March, at which competitors were chosen for the Royal Military Tournament at Olympia.

Sport in India

The Commandant of the Cavalry School, Saugor, India, has been kind enough to send me the following results, which I am sure will interest officers at home :—

POLO AND CHASING IN INDIA, 1919.

MEERUT, NOVEMBER. THE AUTUMN POLO CUP.

21st Lancers 'A': Major Pilcher, Capt. Evans, Capt. Lister, and Mr. Harford.

21st Lancers 'B': Mr. Wyatt, Lieut.-Colonel Brinton, Capt. Godfree, and Mr. Prynne.

Cavalry School: Mr. Corner, Capt. Fleming, Capt. Dening, and Capt. Spooner.

Fox Hunters: Mr. Tatham, Capt. Carr-White, Mr. Onreat, and Major Anderson.

Ambala Gymkhana: Mr. Morgan, Capt. Watkis, Defadar Harnam Singh, and Capt. Colly.

12th Cavalry: Capt. Davison, Major Watson, Major Henry, and Colonel Hesketh.

Depot 22nd Cavalry: Kote-Dafadar Alla Khan, Capt. Melville, Risaldar Ram Kanwar Singh, and Capt. Calder.

Meerut Gymkhana: Mr. Ballentine, Mr. Ryder, Major Wilson, and Major Miller.

Goals Handicap.

Fox Hunters ..	6	Fox Hunters	Cavalry School	Cavalry School.
22nd Cavalry ..	3			
Cavalry School .	6	Cavalry School		
21st Lancers 'A'	12			
12th Cavalry ..	11	12th Cavalry	Ambala Gymkhana	
Meerut Gymkhana	3			
21st Lancers 'B'	3	Ambala Gymkhana		
Ambala Gymkhana	6			

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4th Cavalry: Mr. Phipps, Mr. Bean, Major Farren, and Mr. de Salis.

17th Cavalry: Capt. Persse, Capt. Skipwork, Capt. Atkinson, and Major Stewart.

21st Lancers: Capt. Evans, Capt. Godfree, Capt. Lister, and Capt. Sir B. Pigott.

33rd Cavalry: Tr. Sher Mohamed, Capt. Baines, Capt. Newill, and Major Ferris.

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39th C.I. Horse: Ressaidar Bachettar Singh, Risaldar Mohd. Bahadur Khan, Major Temple, and Jemadar Mohd. Bashir Khan.

Lahore Gymkhana: Mr. Ballentine, Capt. Williams, Capt. Gladstone, and Capt. Broadfoot.

Fox Hunters: Mr. Tatham, Capt. Carr-White, Major Wilson, and Major Anderson.

Royal Air Force: Air-Com. MacEwan, Sqdn.-Leader Moody, Flight-Lieut. Massey, and Sqdn.-Leader O'Neill.

Goals Handicap.

Lahore Gymkhana 4 33rd Light Cavalry 3	33rd Light Cavalry	33rd Light Cavalry	21st Lancers 8—7	
Royal Air Force 4 17th Cavalry .. 10	17th Cavalry			
4th Cavalry .. 7 Fox Hunters .. 9	4th Cavalry	21st Lancers		
39th C.I. Horse 12 21st Lancers .. 13	21st Lancers			

MEERUT CHASES, NOVEMBER, 1919.

Jodhpur Cup, R.3,000 and Cup value R.750; two miles over the Steeplechase Course: Lieut.-Colonel Brinton's May Flower, 11.9 (Major Pilcher), 1; Capt. Bevan Pitman's Harmony, 11 (Major Wilson), 2; Capt. Wallington and Capt. Newill's What Next, 11 (Capt. Newill), 3; Major Lucas's Canberra, 12.4 (Owner), 4.

Kader Chase, R.3,000; two and a-half miles over the Steeplechase Course: Mr. J. D. Scott's Jemcrack, 11.8 (Thompson), 1; Major Lucas's Canberra, 11.12 (Capt. Hilliard), 2; Capt. Bevan Pitman's Harmony, 10.3 (Major Wilson), 3; Lieut.-Colonel Brinton's May Flower, 11.3 (Mr. Wyatt), 4; Mr. Cornforth's Simson, 9.10 (Owner).

LUCKNOW CHASES, NOVEMBER, 1919.

Aintree Chase, R.2,250; two miles: Capt. Bevan Pitman's Harmony, 10.3 (Major Wilson), 1; Capt. Wallington and Capt. Newill's What Next, 9.8 (Capt. Newill), 2; Major Lucas's Canberra, 12.1 (Capt. Spooner), 3.

Sandown Chase, R.2,250; two and a-half miles: Capt. Wallington and Capt. Newill's What Next, 9.4 (Capt. Newill), 1; Capt. Bevan Pitman's Harmony 10.3 (Major Wilson), 2; Major Lucas's Canberra, 12 (Capt. Spooner), 3.

Army Cup, R.4,500 and Cup, R.750; seven furlongs: Lieut.-Colonel Cook-Young's National, 10.6 (Capt. Bernard), 1; Mr. Rossco and Capt. Grant's Grey Baz, 10.9 (Major Wilson), 2; Major Keran's Burg, 9.7 (Owner), 3; Lieut.-Colonel Rivett Cornac's Orissa, 10.6 (Capt. Robinson), 4. Twelve ran.

CALCUTTA CHASES, CHRISTMAS, 1919.

Grand Military Chase, R.9,000 and Cup, £50; two and a-half miles: Capt. Fleming's Red Lucifer, 12.3 (Capt. Hilliard), 1; Capt. Wallington and Capt. Newill's What Next, 11.3 (Capt. Newill), 2; Mr. Edward's Dick, 11.3 (Mr. Heriot), 3;

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Capt. L. M. Hilliard's Jasper, 11 (Owner), 4; Mr. Pugh's Distinguished, 10 (Mr. Pearson); Mr. Wilkinson's Marie Antoinette, 12.3 (Capt. Broadfoot), refused; Capt. Spooner's Half and Half, 11.10 (Owner), fell; Major Steele's Count Hannibal, 11.3 (Capt. Bernard), fell; Lieut.-Colonel Lauder's Gipsy Boy, 11 (Major Kerans), fell.

Grand National, R.12,500 and Cup, £50; three miles: Mr. Swan and Mr. Hilliard's Monsieur Nestor, 11.8 (Hayhoe), 1; Mr. Douetil and Mr. Page's Irish Field, 11 (Murrell), 2; Mr. Tarrant's Isle o' Sky, 10.7 (Moon), 3; Mr. J. D. Scott's Sea Lad, 9 (Mendes), 4; Mr. Allen's Brandichol, 10.1 (Thompson), fell; Mr. Hartley and Mr. Page's Tarfoot, 9 (Gray), fell.

SPORT IN MESOPOTAMIA.

In view of the fact that for some time to come there seems a likelihood of troops being stationed in Mesopotamia, these few notes on the sport to be had in that country may be of some value to those going out there, and have been sent me by an officer who was there during the war.

Unlike India or Africa, there is no 'big game'; a small gazelle, somewhat similar to the Indian 'chink,' is the only specimen. It is found scattered from Barra to Mosul, but in small numbers and at rare intervals, so that a rifle is not an essential part of one's battery; the service ·303 being quite suitable to bring it down if met with.

Their timidity and the open nature of the country render it almost impossible to stalk them, so that unless chance favours the sportsman and he comes upon them over one of the rare hillocks, he has not much chance of bagging one.

Of feathered game there is an abundance, but few species; it would be worth while to mention each kind separately, and say a few words as to the locality in which they are found, and the best means of dealing with them.

I think the sand grouse must come first on the list as it is the commonest of the game birds, and at the latter end of the season, when they pack, the black clouds of grouse sweeping across the desert are a familiar sight of Mesopotamian 'scenery.' They are found throughout the length and breadth of the country.

Their nesting grounds, as a rule, are remote from the habitation of man, thus far from the rivers. They start nesting in May, and I have seen eggs as late as August, though the shooting season commences on September 1. As soon as the eggs hatch out, the parent birds fly to water about an hour after sunrise, and about three hours before sunset, drink, and carry back water for their young. The flight goes on for about a couple of hours, morning and evening. It pays one well to locate their line of flight, and to select some cover for future use, for as soon as the young are strong enough they fly with the parent birds, and the sportsmen who have marked their flight are sure of good bags on the first and the next few days, till the birds, scared by the firing, change their drinking place.

October is probably the best month, as the birds by then are all well grown and have not packed to any great extent. At that time hundreds of cartridges may be fired by anyone concealed near the drinking place. The birds come in,

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in flocks of anything up to fifty, in an incessant stream for about one and a-half hours. In November and December the flocks comprise thousands and thousands of birds. Round about Sheikh Road the birds were in millions on our march up country, and formed a most welcome change from the inevitable tinned salmon and bully. We were short of cartridges—in most messes the allowance was four per diem. As a rule two sufficed to procure a bird apiece for four people, lunch and dinner. One could not afford to be sporting then. I met an officer one day, when I was out for lunch, who carried a five-shot Winchester automatic 12 bore. Two large flocks of grouse had been spotted, about 400 yards away. We each selected our flock and walked towards them. He fired before I got within shot and I turned to watch him. His first shot was fired into them as they rose. The sky rained grouse. I saw him and his two sowars ride off towards camp laden with birds, while I went on to seek my lunch elsewhere.

Later on, when cartridges were plentiful, we had many excellent shoots during the morning and evening flights, but it is a costly game in the matter of cartridges.

About Christmas time, when the rain begins, the birds leave the rivers and live far back in the desert, drinking from the newly formed pools, and from then onwards, till the nesting season, are little seen.

The black partridge (francolin) is about the next most frequently met with. These are easily found, as the ground on which they live is restricted to two narrow strips on either side of the rivers, in any part of the country where there is no irrigation. This fact led to their being almost exterminated in certain localities during the war. Where there is irrigation they are found as far from the river as the canals and even small ditches extend.

Further north, round Mosul, where the rainfall is greater and where, consequently, there is more water, the birds are much more widely distributed, though, as elsewhere, the thick scrub along the river banks and on the islands hold by far the greatest number.

If the cover is not too high, the best way of getting them is simply to walk them up in line. If the cover is light they are easily put up as a rule, but if thick, beaters are almost essential, for one has almost to step on them before they will rise.

When driven they provide excellent shooting. Round about Mosul, where cotton is grown, we had very good sport in the early mornings. The birds leave the cover by the river and go into the cotton fields to feed. Then, if the guns station themselves between the belt of river scrub and the cotton, and the beaters drive the fields river-wards, capital driven birds are obtained.

When all the fields have been thus shot, the river scrub will furnish a couple of hours more good sport.

Any palm gardens, where there is ground cover, are well worth a trial, but as those on the Tigris, at least, were principally near places like Bagdad, Amara and Barra, they were over-shot, and birds getting scarce.

Probably the best shooting to be had from Bagdad was round Beled-Ruz, where the partridge ground is extensive. The birds were in hundreds. Mr. Zarini, who

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lives there and manages a big estate, was most hospitable, and gave every assistance in getting beaters. I believe 200 brace were shot in one day there.

From Barra excellent sport may be had by making an expedition up the Karun river towards Ahwaz.

While dealing with partridges, I must mention the cee-lee, the best eating of all. These are found in coveys, like partridges, and live in the broken ravine-scarred ground met with along the banks of eastern rivers. They appear to favour ground almost devoid of any but the lightest cover. They fly fast, and often offer only a snapshot before they disappear down the ravines, or if one is in a ravine when they rise, before they vanish over the crest. They were plentiful on the Adgrim River, and fairly plentiful on the Tigris, from the Jabel Hamrin northwards.

Duck and snipe being migratory are practically the same as the Indian shooting season, viz., late October to February.

Almost the same variation of duck are to be obtained in Mesopotamia as in India, the mallard, the widgeon and the shoorller being perhaps the commonest, with various kinds of teal.

Little need be said about them, except that almost every thiel holds duck, but in most cases they are hard to get, owing to lack of cover, unless shot flitting.

On big expanses of water like Lake Akkarkuf, near Bagdad, it is almost hopeless to try for them, for there is not a blade of grass to hide behind. One or two shots at the edge will send all the ducks high in the air, to finally settle in the centre of the lake, from whence nothing will move them. The same applies to geese.

Snipe are fairly plentiful throughout the country wherever marsh land is met with.

Bustard are not uncommon, being most numerous at the foot of the Pushti-ku, also round Mendeli and Mosul.

Woodcock are found in small numbers in the scrub by the river north of Mosul, and more plentifully in the foothills to the north and north-east.

Hares are common, but widely scattered. They favour palm gardens and the thorn scrub immediately outside them.

Blue rock pigeons are to be found in large numbers, especially round the towns. They live chiefly on the domes of mosques, and fly into the country to feed morning and evening, but in many places the Arabs object to them being shot.

Wood pigeons, similar to the English breed, are not found to any great extent, and those that there are inhabit the larger palm gardens.

Quail are few and far between.

Green plover are to be had in certain districts, especially round Mosul and on both the Zab Rivers.

I understand that the Turk never shot at all when in occupation of Iraq. One or two Germans used to shoot black partridge on the islands below Bagdad before the war. The Arabs like shooting, but have only muzzle loaders and have a good deal of difficulty with their ammunition.

The whole country is infested with vermin, hawks and rats of all kinds, hence the comparatively small bags that are obtainable in what is, to all intents and purposes, a virgin shooting country.

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Probably by this time cartridges are obtainable in the country, but if not they can be sent from India. It should be borne in mind that owing to the climate they deteriorate rapidly, so it is inadvisable to stock a large supply. It is much better to have some sent regularly every few months to ensure one's ammunition being reliable. A dog, especially for black partridge shooting, is invaluable, but the cover is so thick that the only dog (Labrador) I ever saw tried very soon became exhausted owing to the heat and lack of air in the thick undergrowth (frequently liquorice plants). The only real way of gathering the birds was to have one or two small Arab boys, who dashed forward to pick up the game, frequently, however, putting up other birds.

Another remark *re* duck shooting or any form of thiel shooting. A small canvas boat is invaluable, one that can be carried easily by two persons over the deep mud that surrounds all the thiels and lakes—the boat must be light, as you wade in mud and sticky slime up to your knees before you get to the water's edge, perhaps for fifty yards.

I shot a lot of hares (there are no rabbits) in the palm gardens, where they eat the tomato plants, lettuces, and cucumbers; they are smaller than ours and not unlike the Scotch blue hare, but very good to eat. They are invariably found near the villages and take no notice of the Arabs working in the gardens. I believe the snipe shooting round about the 'Garden of Eden,' which is reported to be at Kurua, the junction of the Tigris and Euphrates, is phenomenally good and 100 couple have often been bagged in a morning. The mosquitoes are, however, very bad indeed, also a form of leech.

I saw once a gaggle of grey geese numbering eighty-nine; they fly an immense height and are extremely difficult to get near, either on land or in the air. One officer I know shot one with his revolver whilst mounted. Hotchkiss rifles were fired at these larger gaggles, but I never heard of one being brought down. They are very tough to eat.

Most game in Mesopotamia take very little notice of the Arabs, nor as a rule are they disturbed if you remain mounted. I think it is the noise the soles of one's boots make that frightens them, Arabs generally being bare-footed. One can often get quite close to a pack of grouse by dismounting and using one's pony as a stalking horse. When we were short of food and cartridges, some of us went out occasionally in Ford cars and drove full split at the pack (perhaps 5,000 to 10,000 birds) and fired a broadside into them as they rose. This was for the pot!

At Sheikh Saad an officer fired two barrels into a pack of grouse; he got one bird with his first and fifty-three with his second!

NOTE.—From the above notes I can see that a dog, as for all shooting, would be most useful. I should recommend a large English springer spaniel or a Labrador retriever. Pointers might be useful, as they have very thin coats suitable for hot climates and can be taught to retrieve.

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SPORT IN AFRICA.

The following account of wild game in Kordofan will interest many of our officers quartered in Egypt and Palestine, and as more Cavalry regiments are to be quartered there than in the past, we expect to hear that the lions and other game are having a rough time.

Records from Forest and River in Kordofan.

The wild game of Kordofan includes a wide range of fauna and many record trophies have fallen to the hunter's rifle in this Sudan Province, which is the most accessible to sportsmen, being traversed by the railway and situated to the west of the Khartoum district.

The varieties of mammals, with their local native names, will be of interest to sportsmen and may be briefly summarized under their respective species.

Lions (Arabic—*Asad*) are plentiful south of eleven degrees north, especially in the neighbourhood of the Nile, Bahr el Ghazal, and Bahr el Arab. In smaller numbers they range as far north as the fifteenth parallel on the Wadi el Melik. It has been calculated that thirty per cent. of the lions and large *felidæ* in the Sudan die of disease during the first year after birth. The young lions and leopards often fall victims to a peculiar animal disease which attacks the spine and begins by paralysis of the hind quarters. If it were not for this disease the lion pest would become intolerable to humanity in the Southern Sudan.

The year before the war twenty-six lions were shot by sportsmen in the Upper Nile Province alone, and unfortunately two Europeans met their deaths while lion shooting. In that year seventy sportsmen visited the Sudan for big game hunting and fortunately no other serious accidents occurred.

Leopards (*nimr*) are numerous and are generally to be found in the neighbourhood of the rocky isolated hills which form a feature of the province. There are two varieties, the large fulvous panther of the plain and the greyer and smaller hill leopard.

The cheetah or hunting leopard is widely distributed and may be found in the arid regions as far north as Haraza Mountain.

Other *felidæ* include the *Caracal lynx*, the *Serval* cat (yellow and spotted like a leopard), and *Felis lybica* (*kadis el khalla*).

Both spotted and striped hyenas (*marfain*) are plentiful. The wild dog (*Lycaon pictus*, Arabic—*Kelb el simi*) has been reported as far north as the fifteenth parallel. They are marked very like fox-hounds and hunt in packs, ranging widely extended through the forest and hunting by scent. They close in upon their quarry on hearing the high pitched whimper which is the signal to concentrate.

There are two kinds of foxes (*abu arnab*) and a jackal (*Canis anthus sudanicus*, Arabic—*Bashom*).

The honey badger, ant-eater and porcupine live in earths which are often occupied by wart hogs. There are two kinds of hedgehogs (Arabic—*abu gamfu*) and at least two species of hares.

Of *Ungulata* the ibex, which occurs east of the Nile, is unknown in Kordofan, but the Barbary sheep (*Ovis lervia*, Arabic—*Arui*) is found on the desert hills of the north in the neighbourhood of Haraza Mountain. The sheep migrate across

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the plain at rare intervals to isolated hills, on which they remain for a year or more until they seek fresh pasture or are hunted away by beasts of prey or Arabs with packs of greyhounds.

The last known *Arui* in the Shabluka gorge of the Nile, which is situated fifty miles north of Khartoum, was shot the year before the war. There was formerly a large herd in the Shabluka Hills, which it is much to be regretted were not preserved. The *Arui* is still found in hills south-west of Dongola Province and near the railway in Halfa Province on the east of the Nile and notably on Kuror Mountain and its neighbourhood west of No. 6 Station.

The tiang (*Damaliscus korrigum tiang*, Arabic—*teital*), which has been found in herds of 2,000 or more, and Heuglin's hartebeest (*Bubalis lelwel*) range northwards to the twelfth parallel. The large duller-coloured tiang (*Damaliscus korrigum jonesi*) extends into the Sahara on the north, where the white *Oryx leucoryx* (Arabic —*bakr el khalla*) is to be found. In the same desert region is the beautiful *Ril* or *Addra* (*Gazella ruficollis*); the buck is white and the doe of a very light colour.

The rare Addax is found south of sixteen degrees north and west of twenty-eight degrees east.

The Sudan duiker, oribi (*mur*), reedbuck (*bashmat*), bushbuck, Dorcas gazelle, black-striped gazelle, the graceful *ariel* (Soemmering's gazelle) are all among the buck of Kordofan.

The waterbuck (*cobus defassa*) is found near the rivers; the rare Mrs. Gray's waterbuck is met with along the Bahr el Ghazal, where the white-eared cob is also to be found and the elusive *sitatunga* of semi-aquatic habits.

The local records for the roan (*Abu Rof*) and the kudu were obtained by General Sir Bryan Mahon, and measured respectively 34½ inches on front curve and 54 inches outside curve and 38½ inches in a straight line.

The giant eland (*Taurianus derbianus gigas*) of the Bahr el Ghazal Province does not extend north of Tembura and although the elephant, buffalo, giraffe hippo and black rhinoceros are among the denizens of the Kordofan forests, the presence of the northern white rhinoceros (*R. Sinius Cottoni*) has not been definitely established there.

The world's record Dorcas gazelle was obtained under circumstances which are best described in the sportsman's own words.*

'What a stroke of luck may give one a good trophy! I was riding along beyond Gedid, where the Khalifa and Mahdism came to their end, and saw a solitary Dorcas gazelle standing in the open, about a hundred and fifty yards to my left. I hesitated whether it was worth dismounting to shoot, as I had bagged several gazelle during the trip, but as I was coming to a convenient bush I decided to add it to the larder. I dropped off my camel, behind the bush, and caused my orderly to lead the camels on without stopping. The gazelle raised its head for a minute, but seeing the camels pass on, continued feeding.

'I took advantage of another bush to get a bit nearer and dropped him stone

* W. R. G. Bond, Esq., Sudan Civil Service.

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dead with a shot from a ·318. When I paced up to him the first thing that struck me was the ugliness of his head, as the tups of the horns nearly met.

'The big crocodile I got as follows :—

'I landed on a rock at Teleit and sent the boat away. Several big crocodiles put their heads up, wondering, perhaps, whether I was out of reach of a sweep of their tails. They allowed me to turn slowly towards them and plug them at a range of a yard or two. I got seven like this, but all sank and after that the rest got more cautious. I was taken off in the boat, but went out again in the evening to see if any of the saurians' carcases had floated up. I found none, but saw a huge crocodile behind an island and got him with one shot through the neck at a hundred yards.

'Then the excitement began. Though paralysed, he was obviously watching and taking notice, and experiments with a bamboo showed that his jaws were still in full working order. As he covered the whole rock he was on, it was impossible to put a rope round him without treading actually on his back, which no one was anxious to do. I had lost so many by one convulsive movement causing them to slide into deep water that I hardly hoped to recover him. I gave him a shot in the brain and he eventually expired. We plunged into the water with a rope, tied up his jaws, and towed him back, an exciting experience in itself, as we had to pass through rocks with a strong current setting, and, as he was longer than the boat, steering was impossible. It took eight men to pull him up the bank and he was completely cut up and eaten by natives before the morning. There was nothing but pebbles inside him, he was very old, covered with green slime, and his teeth were broken.'

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The Charge by Guns of "I" Troop, R.H.A., May 5th, 1811.

See page 398.

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THE CAVALRY JOURNAL

OCTOBER, 1920.

EDITORIAL.

LIEUT.-COLONEL SIR ARTHUR LEETHAM has resigned the post of honorary managing editor, which he has so ably filled from the original publication, in 1906, until last July. His other duties necessitated this step, but he has kindly consented to continue to place his experience and advice at the disposal of the Journal.

The Journal will continue its mission to the mounted and kindred services, relying furthermore on the support of all who seek to arrive at a clear estimate of the characteristics and proper sphere of employment of cavalry.

We cannot disguise from ourselves that, owing to the limitations placed upon the usual sources of information during the long period of hostilities, those who were not participants have found difficulty in realising the value of cavalry operations in the War. Generally speaking the character of siege conditions in trench warfare afforded few opportunities for conspicuous exploits to any arm, and perhaps least of all to the cavalry, but how vital to the Allies they were at the opening of hostilities, during the march of the Belgian Army from Antwerp to the Yser, and during the crucial periods of the long struggle! What far-reaching results were obtained by the ability of the directing staff to utilise the instrument to its hand for the offensive and the war of action.

To the pilot who has gained his brevet on the fastest type of aeroplane the control of any slow machine is a matter of simplicity, and on the

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same principle the expert leaders of horse, trained to a high standard in the rapid evolutions of open warfare, have given proof of military attainments and demonstrated that they could regulate and allot to every arm its appropriate tasks in the irresistible effort to ensure victory.

So far from being bound by convention the cavalry has known how to mould its sturdy doctrine to the new necessities of battle, and where special measures were demanded has even improvised and initiated on the battlefield new drill and tactics. Our readers will measure in these pages the manifestations of cavalry spirit and achievement in recent battles, but we may advantageously study earlier campaigns, for the next war will not be a counterpart of the last. In the early stages of a campaign mobility, if skilfully utilised, may ensure such decisive results as to obviate the necessity of postponing the decision by resorting to stationary warfare.

We would draw attention to the fund of information in the pages of the pre-War CAVALRY JOURNAL, copies of which are still on sale, which, combined with the more recent historic operations of cavalry, will complete a treasury of examples of the underlying principles of the war of movement and of impulsion.

NOTICE TO SUBSCRIBERS.

Owing to the large number of new subscribers, the July issue, No. 37, of the CAVALRY JOURNAL is completely sold out. Should any of our readers who do not bind up their journals wish to dispose of that issue, the Publisher will be pleased to give them half-price for the same, namely, 2s. 6d. The Journal should be sent here (The Royal United Service Institution, Whitehall, S.W.) and the sum will then be remitted.

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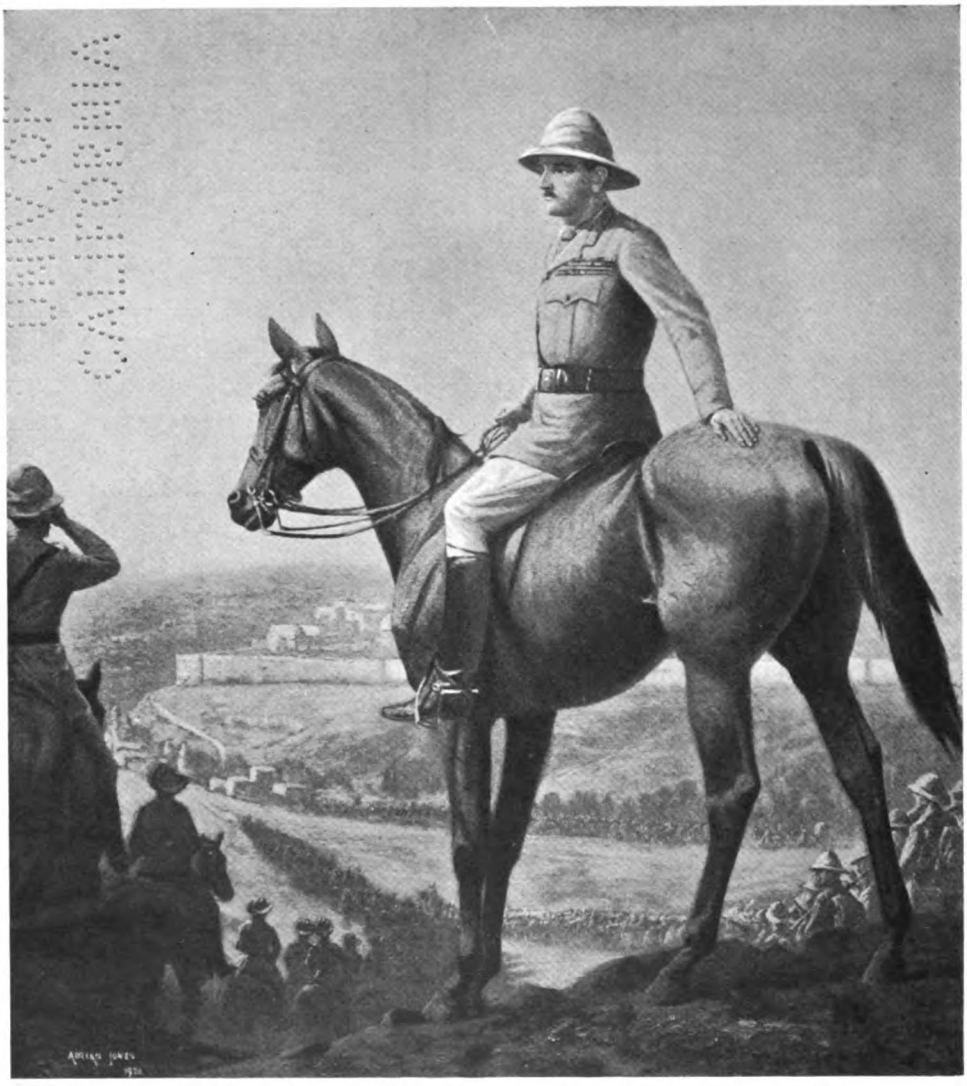

Field-Marshal Viscount E. H. H. ALLENBY, G.C.B., G.C.M.G.,

Colonel 5th Lancers and 1st Life Guards.

From the picture by Captain Adrian Jones, M.V.O.

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THE CAVALRY CAREER OF FIELD-MARSHAL VISCOUNT ALLENBY.

By T. Miller Maguire, M.A., LL.D., F.R.Hist.S.

It is a very remarkable feature in the history of modern war that, in spite of all prognostications to the contrary, cavalry should have played such a leading part. Our troopers revived their ancient fame not only in their rôle of reconnoitring—in which they were assisted and indeed rivalled by aircraft—but also as mounted infantry, armed with the bayonet—quite an unexpected development of yeomanry tactics. But this is not the only evidence of the value of the training and education of our mounted forces before and during, as well as after, their South African campaign. The relative number of cavalry officers who attained the rank of Generals of whole Army Corps and indeed Armies has been quite remarkable. I need only mention the celebrated Commander-in-Chief on the Somme, Douglas Haig, 17th Lancers, and Julian Byng, 10th Hussars; and for pre-eminent work in retreat and in advance, in assault and in manœuvre, in North-Western France as well as in South-Western Asia—the distinguished officer Allenby, who is the theme of this article.

I last spoke to him about the exploits of his comrades at Messines and the notable enterprise of Plumer in a well-known publisher's office, where he was selecting leading works describing the history and geography of his proposed new area of operations in the Levant. Nor were his labours in vain; his studies were rewarded by one of the most successful and justly celebrated campaigns in the long drawn series of invasions by sea and land of the Near East, where he became the follower and the emulator as well as strategic pupil of Alexander the Great, Julius Cæsar,

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and Richard Cœur-de-Lion, and was triumphant where even Bonaparte had to retreat.

I last had a letter from this General, who has become a Field-Marshal and a Viscount, from that venerable town Gaza, erstwhile famous before the foundations of Rome, that formidable fortress of the Philistines, wherein he said he was preparing his advance to plant the banner of St. George on the site of the ruined Temple of Solomon.

As every loyal Irishman, especially every one who has served in any branch or any rank of our Empire's incomparable Army, must feel an especial, almost a personal, interest in any officer who rose from the command of the Inniskilling Dragoons and the Royal Irish Lancers, I may be excused for dwelling more in detail on his career.

After several preliminary canters, so to speak, during interesting operations in Bechuanaland and Zululand, our hero galloped to fame in South Africa

Many interesting details and much valuable information can be gathered from the operations of the cavalry under Allenby's command during the retreat from Mons: observe the protection given to the infantry who were forced to retire, and the information conveyed by my late friend Colonel Ansell, 5th Dragoon Guards, to Allenby, and the warnings of the latter to General Horace Smith Dorrien before the action of Le Cateau, August 26th. Lord French is eloquent in his praise of the fine leadership of Allenby, and his seizure of the Marne bridges, September 9th. Also during the Aisne fighting, and the sudden move north again of our Army and the Battle of Ypres, very important reconnoitring, flanking, and a variety of other duties were assigned to the cavalry; their stand on the Messines Ridge was as useful as it was tenacious, according to the unanimous testimony of all concerned; the most consummate skill was displayed by our hero, and later on, in November, during Haig's desperate stand on the Menin road, Allenby and de Lisle and the young officers and rank and file under their orders did magnificent service, and most certainly prevented, not only the British, but also the French line of battle from being broken by the desperate German onslaughts. I have not space for further reference to the campaign of 1914, but beyond any question so far from our troopers being an anachronism, and our Household

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Heavy Cavalry a mere parade force, in no period of our history did our Heavy Horse, as well as Dragoons, Hussars and Lancers, justify their high position more completely, or give more efficient aid to other branches of the military service, and their functions in Northern France and Flanders were very responsible, but their discharge of their arduous tasks was a glorious and brilliant example for coming generations of our people

But let us turn from the Sambre and the Marne to the villages of the Jordan and the Orontes.

There are very ample and indeed lavish materials available for a description of Allenby's remarkable campaign in Palestine and Syria, July, 1917, to October, 1918. This section of the War of Nations was in itself one of the most fateful incidents in the long drawn military annals of the Levant and of Syria, and is destined to influence the future of Hither Asia more seriously than any other event since the invasion of the Central Asian Turks

But to give even a short compendium of what results our cavalry under Allenby's splendid direction effected from the shores of the Red Sea to the frontiers of Assyria is beyond the possibilities of our space. However, there are abundant supplies of records and narratives for the guidance of future historians.

Pending the publication of a regular official history of those very romantic feats of arms over sites which have been cockpits for all the Empires between the Euphrates and the Mediterranean since the birth of time, the *Palestine News* has given a very satisfactory account of every division engaged and of its units from start to finish, and not only of European but of Colonial and Indian regiments, with the names of their officers and their deeds of daring and especially of the cavalry, to which our attention has been more particularly directed. As we study these pilgrimages and their difficulties and victories we can easily imagine ourselves to be following the footsteps of Joshua and David, of Christian Crusaders, and of Saracen Caliphs. Regular cavalry and corps from New Zealand, Australia, and India were engaged as well as yeomanry from Worcester and Warwick in daring charges driven home, and in able manœuvres from Gaza, November 7th, to Jaffa, November 17th. Jerusalem

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fell December 9th, 1917. In regard to these operations Sir Philip Chetwode, a cavalry officer, was specially mentioned, as were General Chauvel's mounted troops. In the movement against the Jordan bridges, February, 1918, the New Zealand and Australian mounted troops were on the right of the Army and very busy cutting communications of the Turks with Jericho and in attacking the Hedjaz Railway and in the remarkable raid on Amman at the end of March.

After a considerable portion of Allenby's troops, including yeomanry, had been dispatched from the East to reinforce our very hardly pressed troops in France, their places were taken by Indian troops from Mesopotamia as well as Indian cavalry from France. As these troops, however, had not the experience or stamina of those whom they replaced, their splendid handling by Allenby and his subordinates deserves all the more enthusiastic commendation. Between April and October, 1918, there is no doubt that by steady pressure on the Turks and on their German allies these Indian horse won a high reputation. In July the Indian mounted troops in the Jordan Valley used the lance with great effect on several occasions—among the best charges being that of the Jodhpore Lancers—while at the same time the work of the Royal Air Force was of great value; of course it did much of the old time cavalry duty of reconnoitring and scouting, and it was most interesting to observe the aerial photographs of the panic caused among the enemy by bombs dropped from the clouds.

I may mention that our cavalry also played a very conspicuous and useful part in the final operations in Mesopotamia and in thwarting the Turkish advance towards Baku

As Mr. Dane very ably indicates, there were some ten British campaigns going on in 1917 at the same time; the German designs were far reaching and their endeavours widespread. Allenby's brilliant enterprise held, captured, and annihilated Turkish-German forces which if permitted would have turned the balance against the Allies in other quarters, and therefore enhanced the moral influence, prestige, and power of our race all over Asia.

When Beyrout, the port of Damascus, was occupied, there was really no further resistance at places like Homs and Tripoli. I suppose never in all the romantic annals of the East was so celebrated a place as Aleppo

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so easily and rapidly secured by any invaders. The Arabs in our force stormed it October 25th, after a show of resistance by a Turkish rearguard. These were routed by armed cars and British cavalry. Then came an armistice.

The mounted troops of Chaytor's force, notably the Australian and New Zealand Horse, were particularly useful during the advance September 19th to October 31st, 1918. the French cavalry co-operating with the Australian Light Horse and entering Beirut October 20th; and as another reminiscence of the Crusades it is interesting to note at this period the international character of Allenby's force, and that Italian carabinieri furnished a guard of honour to this British leader on his official entry into Jerusalem, December 11th, 1917. Indian Lancers, Central Indian Horse, as part of the 4th Cavalry Division, were very active from July 1918, till the end of the War.

The 5th Cavalry Division, including the 13th, 14th, and 15th Cavalry Brigades, with distinguished Indian regiments, Jodhpore Lancers, Mysore and Hyderabad Lancers and the aid of a number of armoured cars, enacted marvellous revivals of the most prominent exploits of ancient campaigns from Acre to Aleppo (Aleppo is 200 miles north of Damascus) between September 19th and the end of the month, capturing 10,000 Turks and about fifty guns. On October 11th Baalbec was occupied, and Allenby trod in the footsteps of Sennacherib, when his troopers repaired the bridge over the Orontes on October 19th

I have much more to tell about our hero's martial pilgrimages—far more varied and far-reaching than those of Chaucer's knight—I have only indicated rather than described the several phases of his career from South Africa to the North of France and to the South-West of Asia, from covering the retreat of his own nation's infantry to the Valley of the Marne, to his command of the Egyptian Expeditionary Force, and able direction of that strange army of so many diverse races and creeds, with all the equipments alike of antique iron craft and the terrors of modern science—a direction which hurried the troopers of the Antipodes and of Hindustan from the sacred gates of Jerusalem to the Syrian cities whose antiquity of commercial renown is of itself one of the marvels of recorded time covering thousands of years

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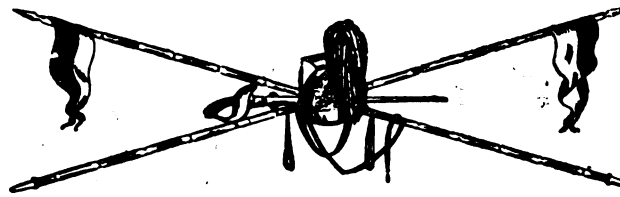
Since the days when David seized Damascus and a General of Alexander the Great ruled in Aleppo there may have been more remarkable episodes in the annals of the Levant and of Syria than the British campaign of 1917 and 1918, but this I know, that none are recorded, nor are any likely to be recorded. The British Empire in this generation is indebted to Allenby, and future generations will testify their admiration.



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OPERATIONS OF THE MOUNTED TROOPS OF THE EGYPTIAN EXPEDITIONARY FORCE.

1. THE campaigns of the Egyptian Expeditionary Force in Sinai, Palestine and Syria cannot fail to be of absorbing interest to all cavalry soldiers.

With the exception of the B.E.F. in France, this force is the most powerful which has ever operated as a British Army, and it attained to a success as decisive as any recorded in the whole history of war.

Organised, armed and equipped as a modern European army, it was opposed to the main forces of a Power, half European, half Asiatic, supported by German leadership, technical troops, arms and equipment.

These civilised armies fought in an undeveloped land, thoroughly typical of the outlying marches of the British Empire and its confines.

British armies will always be civilised; for many years Greater Britain will be undeveloped; in view of these facts, and in spite of the permanent liability of British armies to fight in Europe, these campaigns of the E.E.F. may be considered thoroughly representative of British Imperialism and provide exceptional material for the study of Imperial military problems. This opinion is endorsed by the highest military authority.

Throughout these operations the proportion of mounted troops to infantry and artillery stood very high, finally attaining to the proportion of four mounted divisions to seven divisions of all arms.

Throughout, the mounted troops were indispensable, whether operating in desert, plain or mountain.

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In the last phase, by means of their mobility and powerful armament, they were the decisive instrument in the total destruction of an army of 100,000 men.

This achievement is the complete fulfilment of the cavalry soldier's dream; in face of it the critic of the arm stands dumfounded.

2. The operations may be divided into five phases:—

Phase 1.—Operations in the Sinai Desert, March, 1916—February, 1917.

Phase 2.—Operations, comparatively stationary, on the line Beersheba—Gaza.

Phase 3.—Attack on the line Beersheba—Gaza, followed by pursuit to Jaffa and Jerusalem, November, 1917.

Phase 4.—Operations, comparatively stationary, on the line Ghoranneh bridgehead, River Jordan—north of Jaffa.

Phase 5.—Attack on the Plain of Sharon, north of Jaffa, and pursuit to Damascus and Aleppo.

3. It is proposed to publish a narrative of these operations, and to take them phase by phase.

The narrative will be written by officers who took a responsible part in the operations. Comments will be made; lessons and deductions drawn. The writers, however, wish it to be thoroughly understood that an opinion stated is merely the opinion of the writer, and cannot be accepted in any way as completely authoritative; complete authority can only be attained when the Official History is published.

PHASE I.

Operations in the Sinai Desert.

The following cavalry operations are taken from the History of the Anzac Mounted Division. They show a series of cavalry operations under modern conditions of war, though not under European conditions.

The Anzac Mounted Division was formed in Egypt from the three Australian Light Horse Brigades and the New Zealand Mounted Rifle Brigade, after the return of these brigades from Gallipoli.

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At first it consisted of :—

Australia.

1st Australian Light Horse Brigade.
2nd Australian Light Horse Brigade.
3rd Australian Light Horse Brigade.

New Zealand.

New Zealand Mounted Rifle Brigade.

Imperial.

Ayrshire Battery, R.H.A.
Inverness Battery, R.H.A.
Somerset Battery, R.H.A.
Leicester Battery, R.H.A.
And Ammunition Columns.

Partly Australia and partly New Zealand.

Signal Squadron.
Field Squadron.
Medical.
Army Service Corps.
Veterinary.

This formation was used in the operations in Sinai until February, 1917. During these operations the 5th Mounted Brigade, and later the Imperial Camel Brigade, was usually attached to the division.

Arms.—The Anzac Mounted Division was armed during the whole campaign with a rifle and bayonet only. At the start it was proposed to have a hand-to-hand weapon. But no arms were available, and the only form of lance, of which some 300 were issued to experiment with, was found unsuitable after a trial.

Later in the campaign the question came up, but it was decided to stick to the rifle and bayonet.

Machine Gun Squadrons were formed in the middle of 1916.

Hotchkiss Guns were issued early in 1917. Up to then the division had the Lewis gun.

The division had experience of very varied kinds of warfare :—

(1) March, 1916—February, 1917. Desert warfare.

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(2) February, 1917—October, 1917. Open warfare, of which the period April—October, 1917, consisted of minor operations against Turkish cavalry and camelmen and Bedouins on the flank of the army, which was entrenched.

(3) October, 1917—November, 1917. Open warfare, which varied from the fighting in the hills south of Hebron to the pursuit to the area north of Jaffa.

(4) November, 1917—December, 1917. Trench warfare, with a No Man's Land of about 200 yards.

(5) February, March and April, 1918. Mountain warfare, in the Jericho, Amman and Es Salt operations.

(6) April, 1918—September, 1918. Trench warfare, but with a very wide No Man's Land and an open eastern flank.

(7) September, 1918—October, 1918. Open warfare and pursuit eastwards.

Long Distance Operations.

1. The Expedition to Wadi Muksheib and Moiya Harab.—This is an example of the ability of mounted troops to strike at long distances in desert warfare.

The expedition left the Suez Canal defences on March 21st, 1916.

Object.—To ascertain what water there was in both the above places. This would show the possibilities of another Turkish attack on the Canal and if found would be of assistance to us in future operations.

Composition of the Column :—

1 Regiment Australian Light Horse.
40 Bikanir Camel Corps.
2 Officers and personnel Royal Air Force.
Wireless Unit.
Visual Signalling Unit.
1 Officer from G.H.Q. and orderly.
1 Medical Officer and orderly.
R.E. personnel with reservoirs, pumps and troughs.
1 Arab sheikh.
1 Bedouin guide.

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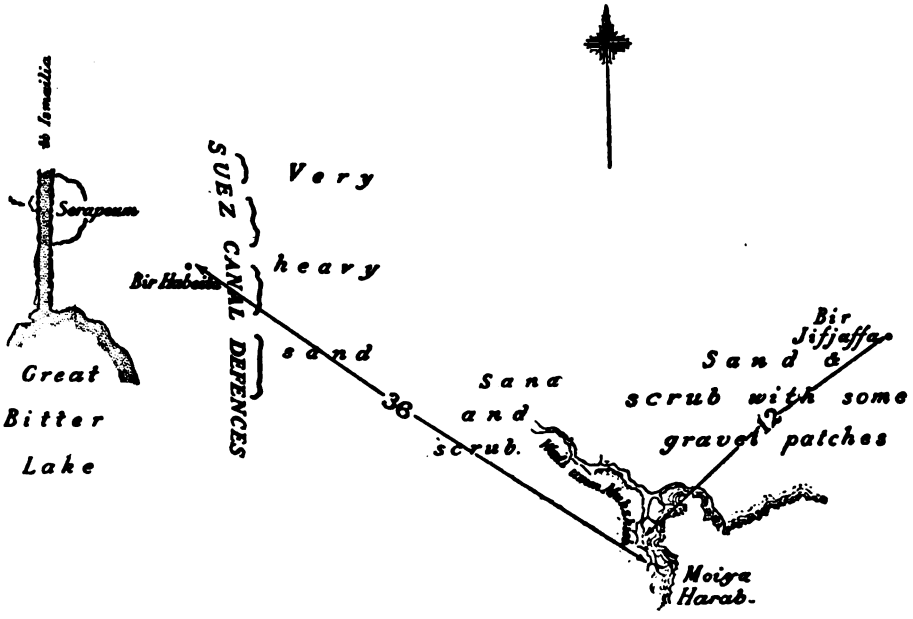
443 Camels (divided up as follows) :—

299 Water : (i) for three full days for men ; (ii) for five waterings for horses.
15 Rations for men.
47 Forage for horses.
10 S.A.A.
6 Engineering plant, reservoirs, pumps and troughs.
2 Communication apparatus.
15 Kits, blankets, etc.
49 Camel forage.

443

Note.—Water for horses had to be taken because it was not known how much, or even if any, water would be found in Wadi Muksheib or at Moiya Harab.



Distance Traversed.—From point of departure in the Suez Canal defences to Moiya Harab and back, in a straight line, 72 miles, but this was increased owing to the column having to deviate round sand dunes.

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Time.—40½ hours marching for the whole column. A 24 hours' halt at Moiya Harab while carrying out the reconnaissance.

Arrangement of Hours of March.—The rate in heavy sand with camels is never more than 2½ miles an hour.

March 7 hours = 17½ miles; halt, water and feed, 6 hours.

Thirty-three camels carrying water were sent back from here to the Canal defences under a small escort.

March 7½ hours = 18½ miles; halt for 24 hours and carry out reconnaissances.

March 7½ hours = 18½ miles; halt, water and feed, 6 hours.

March 7 hours = 17½ miles.

The detail of this operation is given to show what arrangements have to be made for such an expedition.

It was quite successful. Water was found in both Wadi Um Muksheib and Moiya Harab.

The column left at 05.00, on March 21st. They got back at 20.30, on March 23rd.

Camels were rather tired; horses and men fit.

2. The result of the above expedition enabled arrangements to be made for the next one, which followed a week later. This was a raid on Jifjaffa, 12 miles farther on than Moiya Harab, or 48 miles from the point of departure. A small body of Turks under a German Officer, covering a well-digging party, were known to be there.

The detail of the column was:—

9th A.L.H. Regiment: 117 of all ranks.
5 spare horses.
44 Bikanir Camel Corps.
Detachment of Engineers for (i) demolition; (ii) water duties.
Wireless pack detachment.
Detachment Royal Air Force.
Machine Gun Detachment of 2 guns.
2 Interpreters.
Medical personnel: 1 medical officer, 1 medical orderly, 5 camels with cacolets, 2 sand carts.
Camel train with food, forage and water.

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(1) *Communications.*—

(*a*) By aeroplane.
(*b*) By wireless.
(*c*) Visual: helio, lamp and flag.

(2) *Ammunition.*—

(*a*) 200 rounds a man.
(*b*) 10,000 reserve.
(*c*) 6 boxes reserve for machine guns.

(3) *Wire-cutters.*—One per section.

(4) *Rations and Forage.*—5 days. One feed on the horse; one day on the man.

(5) *Water.*—5 days. Water-bottles full.

(6) *Picketing Gear.*—One sand-bag per man.

(7) *Tools.*—10 shovels.
1 bale sand-bags.
1 Rotary pump.
40 feet of canvas for troughs.

Arrangements were the same as for the former expedition. On arrival at Wadi Um Muksheib there was a halt, and then the 9th A.L.H. Regiment pushed on, surrounded and surprised the party at Jifjaffa, killed, wounded or captured the whole post, about 35 strong, with the loss of one man killed.

Total distance covered 96 miles, but some of the light horse, who made a detour to cut off Jifjaffa from the east, did more. Time taken worked out as follows:—

Left Canal defences at 01.00, on W day.
Arrived Wadi Um Muksheib 09.30, on W day.
9th A.L.H. Regiment left Wadi Um Muksheib 09.30, on X day.
Completed operation and returned late afternoon, X day.
Left 18.00, Y day.
Back at Canal defences 14.30, Z day.

3. From the beginning of May, 1916, to July 19th, the Anzac Mounted Division were in the Qatia oasis, covering the building of the railway eastwards from Kantara. They carried out during this

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period a series of long distance reconnaissances and enterprises towards the east. Their especial object was :—

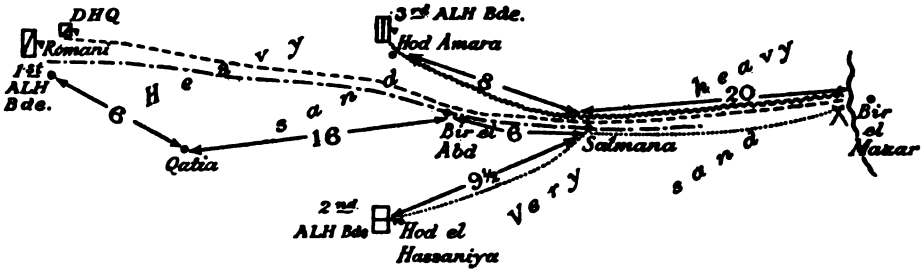
(*a*) To get information of the country and of the habits of the enemy.

(*b*) To locate and capture any detachments the enemy pushed forward.

(*c*) To stop him gaining information.

Sixteen of these expeditions, in which forces varied from two brigades to a squadron, were used. No force less than a squadron was used on any of these expeditions.

About the longest was from Romani to Salmana, which surprised and destroyed a small enemy post there.



Distance.—There and back 56 miles.

Time.—42 hours (12 hours were spent hidden in palm trees during the heat of the day).

The importance attaching to these preliminary encounters cannot be over-estimated. A condition of passive defence, combined at the time of the Turkish adventure on the Suez Canal with a misplaced reliance on aerial reconnaissance, was converted by the superior enterprise, dash and aggressive methods of our horsemen to a moral superiority and confidence which was enhanced by a corresponding paralysis in the foe.

(*To be continued.*)

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34th POONA HORSE.

Narrative Account of Cavalry Engagements in 1918 in Palestine.

DURING the cavalry operations in September and October, 1918, which led up to the capture of Aleppo on October 27th, the 34th Poona Horse was only engaged in two actions of special interest. These were (*a*) the action in front of Nazareth on the morning of September 20th, and (*b*) the engagement near Damascus on September 30th and October 1st.

(*a*) At 6 a.m. on the morning of September 20th the 34th Poona Horse, acting as advanced guard to the 14th Cavalry Brigade, were moving on Nazareth from the south across the plain of Esdraelon. The 14th Cavalry Brigade was acting in conjunction with the 13th Cavalry Brigade, which was making an enveloping movement to block the northern and north-western exits of Nazareth. During the preceding 24 hours the 14th Cavalry Brigade had marched over 50 miles, of which the last ten miles had been over a goat track through the Carmel range of hills and which had tried the horses almost to the limits of their endurance. At 6 a.m. the vanguard squadron under Lieut. J. O. Hanwell had reached a point about three miles south of Nazareth and one mile south-west of the El Fule—Nazareth road. On topping a slight ridge Lieut. J. O. Hanwell observed seven motor lorries, full of Germans and Turks, escaping up the El Fule—Nazareth road.

The enemy, seeing the squadron advancing in the direction of Nazareth, stopped their cars and opened machine-gun fire on our advanced patrol, which lost one sowar killed and one N.C.O. wounded. The Squadron Commander halted his squadron and returned the fire, using his Hotchkiss guns with great success. The cars then continued their retirement

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towards Nazareth, but were shortly forced to halt again, as their retreat on Nazareth was cut off by troops of the 13th Cavalry Brigade, which had by this time completed the cordon round Nazareth. In the meantime the 14th Cavalry Brigade had moved forward, again coming under heavy fire from the lorries. The G.O.C. Brigade at once ordered up the machine-gun squadron and they, quickly getting their guns into action, soon silenced the enemy's fire. The enemy, seeing that escape was impossible, set fire to their lorries and surrendered to the troops of 13th Cavalry Brigade.

On the arrival of the M.G. squadron, the advanced squadron again moved on to secure the main El Fule—Nazareth road Arriving there a hostile force, estimated at about 300 men with four lorries and two motor cars, was observed advancing down the road from the direction of El Fule. The Squadron Commander at once gave the order to charge, and the horses, in spite of their 50 miles' trek, responded so well that a very successful charge ensued, resulting in the capture of 250 prisoners, four lorries and one motor car. Several of the enemy were killed by lance thrusts.

(*b*) At 5 p.m. on September 29th the 14th Cavalry Brigade, less S.R.Y.,* moved out of El Kuneitra and began the final march on Damascus. The brigade was the leading brigade of the 5th Cavalry Division, which was marching in support of the Australian Division. The advance of the Division was delayed about three hours by the leading brigade being held up by the enemy south of Sasa. At 8 a.m. on the 30th the brigade had reached Sasa. At 8.45 a.m. information was received by aeroplane that a force of about 2,000 Turks was retiring on Damascus by the Deraa—Kiswe road and the 14th Cavalry Brigade was ordered to intercept this force and march on Damascus. On reaching the top of a ridge near Khan Esh Shiha, the situation was obvious at once. Stretching away to the north lay the plain of Damascus, over which a few miles ahead the entire Australian Division could be seen deploying in hot pursuit of the Turkish Damascus force. Ten miles away to the east rose a thin cloud of dust from the column of Turks retiring on Damascus along the Deraa road. This was the objective of the 14th

*Sherwood Rangers Yeomanry.

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Cavalry Brigade, and it was obvious that speed was imperative if the brigade were to intercept this force. At 9.30 a.m. the order to trot was given and the brigade set off along the Wadi Es Zabirani. The regiment who were in rear of the brigade did not stop trotting till they came into action at 11 a.m. This was a great effort for horses which had already covered 30 miles during the night, and taking into consideration the very heavy going along the river valley. The brigade seized the hills Jebel El Aswad astride the Kiswe—Damascus road only just in time, for as the 34th Poona Horse came up in rear of the brigade considerable rifle fire broke out. This was the 20th Deccan Horse advanced guard squadron, which was engaged with the vanguard of the Turkish force, who were trying to escape up the road towards Damascus. On arrival of the Poona Horse the G.O.C. brigade at once ordered two squadrons to move out and seize a further range of hills, which commanded the road more completely than the hill which the 20th Deccan Horse were holding. This hill was held by bodies of Turks who had come out from Damascus. "C" and "D" Squadrons, commanded by Lieut. W. S. H. Hearn and Lieut. J. O. Hanwell respectively, were then ordered to attack this ridge and get astride the road to stop any Turks escaping up the road. The two squadrons then moved out in line of troop column, "C" Squadron leading. Making a wide flanking movement from the left, they attacked the ridge mounted. The enemy put up a slight opposition at first, but retired before "C" Squadron came within charging distance, the ridge thus falling into our hands with the loss of only one O.R. wounded. This small action was a good example of the great moral effect of a mounted attack. The enemy troops were firing from behind rocks, but owing to the determined manner in which our mounted attack was carried out, they had not the necessary *morale* required to meet the charge. The effect of the two squadrons on this hill was soon made apparent; owing to the heavy Hotchkiss gun and rifle fire opened by them, no more Turks succeeded in escaping up the road, and their well directed fire caused the enemy very heavy casualties, with the result that the Turks in the immediate vicinity surrendered to our squadrons. In this action "C" Squadron took prisoner ten officers and 59 other ranks. The main body of the Turkish column, which had halted at Kiswe village, surrendered

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later in the day to the 13th Cavalry Brigade. Nothing further of interest occurred that day and the brigade bivouacked for the night at Ashrafie.

During the night "A" Squadron, under Lieut. H. D. Whittick, which was on outpost duty on the hills covering the Deraa—Damascus road, captured 150 prisoners and killed over 60 Turks, who were trying to escape over the hills to the north, by Hotchkiss gun fire. At 7 a.m. on October 1st the 34th Poona Horse received orders from brigade to march on Damascus. The advanced guard "C" Squadron, moving out at 8 a.m., encountered about 300 Turks in column moving on Damascus just south of El Hayira. Lieut. W. S. H. Hearn, sending out his Hotchkiss guns to the flank, formed line and charged. Owing to his skilful use of Hotchkiss guns many of the enemy were killed before the squadron got into action. Over 200 prisoners were taken in this charge. One incident of rather exceptional interest occurred at this juncture. Almost simultaneously with Lieut. W. S. H. Hearn's attack on the head of the column, a small body of Hedjazian cavalry rounded a corner of a hill and charged the rear. This was the first time that the regiment had come in close contact with our Hedjaz Allies.

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MAJOR NORMAN RAMSAY
(*Royal Horse Artillery*).

By COLONEL R. H. MACKENZIE, F.S.A.Scot.

NORMAN RAMSAY, a very gallant and dashing officer, whose name has been immortalized by Napier, was the beau-ideal of a Horse Artilleryman, and the personification of that branch of the service. He was born in 1782, and was the eldest of three sons of Captain David Ramsay, R.N., of the family of Ramsay of Balmain, in Kincardineshire. He entered the Royal Military Academy as a cadet on January 17th, 1797, and obtained his commission as second lieutenant in the Royal Artillery on October 27th, 1798,* becoming first lieutenant on August 1st, 1800.

His first active service was with one of the companies of Royal Artillery which, under Lieut.-Colonel Thomas Seward, accompanied Sir James Pulteney's unsuccessful attempt on Ferrol in June, 1800. He afterwards served in the campaign in Egypt, in 1801, for which he received the Turkish medal.

Between the peace, in 1802, and the outbreak of the war in the Peninsula nothing particular is recorded of him. On April 24th, 1806, he was promoted to the rank of second captain, and in 1809 was posted to "I" Troop,† Royal Horse Artillery, which he accompanied to Portugal and where he first came into prominence. With this troop, first under that well-known officer, Captain R. Bull, and subsequently in command of it, he served with great distinction. His first important action was that of Busaco, in 1810, where the Horse Artillery did excellent service, in spite of the ignorance of artillery tactics which Lord Wellington displayed. The greatest loss the enemy sustained was said to have been from the English artillery,‡ and immense slaughter

* In the Diary of Lieutenant Swaby, R.H.A., edited by Colonel F. A. Whinyates, it is stated, on page 51, note 3, obviously in error, that Ramsay served in Holland in 1793-94.

† Now "I" Battery, Royal Horse Artillery.

‡ *Memoirs of Major-General Sir H. D. Ross.*

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was inflicted on them by the shrapnel shells thrown from Ross's guns, aided by those of Norman Ramsay's troop. The troop was subsequently specially thanked by Sir Stapleton Cotton for its zeal and activity in covering the retreat to Torres Vedras. When the Army again advanced in 1811, "I" Troop equally distinguished itself. It was mentioned by Wellington* for its conduct in the affairs at Pombal, Redhinha, Cazal Nova, Foz d'Aronce, and Sabugal, on all of which occasions Norman Ramsay's conduct occasioned particular notice.

At the Battle of Fuentes d'Onoro, fought on May 5th, 1811, Bull's troop, under the command of Ramsay, greatly distinguished itself. No feat of arms is more celebrated, perhaps, than that of its charging and breaking through the French cavalry, and it has secured undying fame. Its dashing commander covered himself with glory, and his brilliant exploit reflected the greatest honour on the Horse Artillery, and showed what wonderful strides had been made in the matter of mobility in that arm in the few years which had witnessed its introduction into the British service. On the morning of the battle Norman Ramsay was on picket with two guns of his troop when, by a rapid advance of the French cavalry, he was cut off and surrounded. It was supposed that the guns were lost, and the Army ceased to think of Ramsay and his men, except as prisoners. Suddenly, however, to quote Napier,† "a great commotion was observed among the French squadrons; men and officers closed in confusion towards one point where a thick dust was rising, and where loud cries and the sparkling of blades and flashing of pistols indicated some extraordinary occurrence. Suddenly the multitude was violently agitated. An English shout arose,‡ the mass was rent asunder, and Norman Ramsay burst forth at the head of his

* Despatches of March 14th and 16th, and April 9th, 1811.

† *History of the Peninsular War*, Vol. III. p. 513.

‡ The Frontispiece of this number represents this episode. The original painting by Beavis, from which it is reproduced, was kindly lent from the Officers' Mess of "I" Battery, R.H.A. A very fine poem, written early in the last century, by Frederic Harwood, describing the event from the description of Harry Franklin, one of the actual gunners, was published in our contemporary, *The Gunner*, for August, 1920, published at 1a, Middle Temple Lane, E.C.

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battery,* his horses breathing fire and stretching like greyhounds along the plain, his guns bounding like things of no weight, and the mounted gunners following close, with heads bent low and pointed weapons, in desperate career." He was welcomed with acclamation by his comrades and his name became a by-word in the Peninsular Army as the personification of all that was dashing and brilliant. The incident has frequently been committed to canvas.

In 1812 "I" Troop took part in the Battle of Salamanca, and in the advance on, and the retreat from, Burgos, distinguishing itself in the action of Venta de Pozo on October 23rd; and Ramsay was mentioned in Wellington's dispatch of October 26th. Major Bull was wounded during the retreat and had to leave the troop. The command of it fell temporarily to Ramsay; and though Major Frazer assumed it in the beginning of 1813, his appointment to command the whole of the Horse Artillery three months afterwards left "I" Troop in Ramsay's hands throughout the campaign of 1813.

At the Battle of Vittoria, June 21st, 1813, the troop was attached to Lieut.-Colonel Sir Thomas Graham's corps, and contributed largely to the capture of Abechuco, by which the French Army was cut off from the Bayonne road, its best line of retreat. In this battle, in which the services of the artillery generally were conspicuous, Norman Ramsay's daring and dash were again prominent; he rode a couple of 6-pounders over a hedge and ditch in order to get them up in time to act against the retreating enemy. Sir Augustus Frazer, in his letters, wrote that "Bull's Troop, which I have no hesitation in saying is much the best in this country, had, under Ramsay's command, been of unusual and unquestionable service."† But a sad misfortune shortly overtook poor Ramsay—a grief which never quitted him while he lived.

* For many years it was believed that this exploit was performed by the whole troop, but the contemporary evidence of Lieutenant Ingleby, R.A., who was present at the battle, and the *Diary of a Cavalry Officer*, as well as an account of the affair given in the *Proceedings of the Royal Artillery Institution*, Vol. XIX., p. 12, clearly prove that but two guns were concerned.

† *Letters of Sir Augustus Frazer*, p. 186. Ramsay received the Peninsular Gold Medal for Vittoria.

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After the battle he was ordered forward in pursuit of the French. Wellington overtook him at the cross-road which runs between those leading to San Sebastian and Pamplona, and ordered him to take his troop to the neighbouring village and remain there until receiving personal orders from him. No orders came during the night, but at 6 a.m. an Assistant-Quartermaster-General arrived and ordered him to join the brigade to which he belonged. Ramsay asked, "Am I to take this order as from Lord Wellington, for he gave me positive orders not to move without personal orders from himself?" The reply was, "This order is from Lord Wellington," upon which, with much hesitation, Ramsay, after receiving a written order from the Quartermaster-General, prepared and marched. The troop had not gone far when his lordship, with his own staff, came to the spot where he expected to find the troop, and was very angry at not finding Ramsay. He galloped after him, and for his alleged disobedience placed him under arrest. Ramsay's act was due evidently to a misunderstanding, but Lord Wellington was immovable. Every effort was made by Sir Thomas Graham, Lord Fitzroy Somerset, and others to get the order cancelled; but Lord Wellington would listen to no reason or explanation, and omitted Ramsay's name in dispatches. This act of injustice was much felt in the Army, and occasioned general regret; for Norman Ramsay, by his personal character, his enthusiasm, bravery, and ability was universally beloved by his brother officers and his men. To a man of his highly honourable and sensitive nature the circumstances of his arrest, coupled with the omission of his name from the Vittoria dispatches, and the loss of a brevet he had well earned, may be said to have inflicted a wound which neither time nor subsequent honours could heal. To his father, who idolized him, it was a terrible blow. Sir Augustus Frazer wrote:—"There is not, among the many good and gallant officers who are here, one of superior zeal or devotion to the service to Ramsay, who has given repeated proofs of spirit and good conduct." The letters of his brother officers show the affection which was felt for him. Sir Alexander Dickson, Sir Augustus Frazer, Sir Hew Ross, Major Cairnes, and others—all men of different characters and disposition—rarely wrote without a loving word or kind inquiry about him. If his troop distinguished

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itself, they all rejoiced as if it had been their own; if he met with any grief, they longed to share it; and if sorrow came upon themselves, their first instinct was to confide it to him.* The consciousness of having done an unjust act is rendered more difficult to bear when the victim has been one for whom affection has been entertained; and it was believed in the Army that, as far as his undemonstrative nature would allow, Lord Wellington had a strong liking for Norman Ramsay. There was no doubt of the devotion of the latter for his great chief; and the keen suffering caused by injustice from a person whom one loves must be realized to be fully understood. He was happily released from arrest in time to carry his brave troop through the many actions with which the war concluded, and he received a brevet promotion for these services; but he was never the same man. His release from arrest took place in July, 1813, and we have an account of what took place from the pen of Assistant-Commissary Henegan,† who was present. Henegan was breakfasting at Villa Franca with Norman Ramsay and the officers of his troop, then commanded by Captain Cator, when General Vandeleur entered and, grasping the hand of Ramsay with a brother soldier's warmth, said: "The object of my visit, Captain Ramsay, is to inspect your troop." "My troop, General, is mine no longer," answered poor Ramsay with deep emotion. "I am glad to say you are mistaken, Captain Ramsay," rejoined the General, "for I am the happy bearer of orders from headquarters that authorize me, as I before said, to inspect your troop. The command of it is restored to you." Ramsay, overcome by his feelings, turned away and wept; while every officer present, none more cordially then Captain Cator,‡ who had superseded him, gave vent to their joyful feelings at this happy termination.

In the advance of the Army over the Pyrenees, Ramsay's troop was attached to the corps of Lieut.-General Sir John Hope. Colonel Dickson, in one of his reports, particularly brings it to notice for repeatedly

* Duncan's *History of the Royal Artillery*.

† Afterwards Sir Richard Henegan.

‡ Afterwards General Sir William Cator, Colonel-Commandant, R.H.A.: died in 1866.

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silencing the guns opposed to it at the battle of the Nivelle; and Ramsay was one of the officers specially mentioned by Hope* in his report of the operations on the Nive on December 10th and 12th. He was twice wounded in these actions. Ramsay, who had been made a brevet major on November 22nd, was promoted first captain on December 17th, and posted to No. 8 Company, 1st Battalion,† then in the West Indies, but he was transferred early in 1814 to "K" Troop, Royal Horse Artillery,‡ in England.

In the spring of 1815 he was transferred to "H" Troop, Royal Horse Artillery,§ which formed part of Wellington's Army in the Netherlands, and was soon, as Sir Augustus Frazer wrote,‖ "adored by his men: kind, generous, and manly, he is more than the friend of his soldiers." The armament of his troop comprised five 9-pounders and one heavy 5½-inch howitzer, and nine ammunition carriages, each gun and the howitzer being drawn by eight horses, and each wagon by six. Each of the six mounted detachments required eight horses; five were required for the staff-sergeants and farriers; eighteen for the spare-wheel carriage, forge, curricle-cart, baggage-wagon, etc.; seventeen horses for officers, and six mules and thirty spare additional horses. This gave a total of 226 for the troop, and there were twenty-three non-commissioned officers, artificers, and trumpeters, eighty gunners, and eighty-four drivers. The troop was admirably horsed and beautifully turned out.

During the retreat from Quatre Bras Ramsay was wounded in the head, and wore a forage cap at Waterloo. On the morning of that day, as he went into action at the head of his troop, it passed the Headquarter Staff. The Duke, who had not seen him since his arrival in Belgium, accosted him cheerfully—something to the effect "Very good," or "Well done, Ramsay." The latter saluted profoundly,

* Lord Wellington's dispatch, December 14th, 1813.

† Now 11th Field Battery, R.A.

‡ Afterwards "E" Battery, "A" Brigade; reduced in March, 1882.

§ Now "H" Battery, R.H.A.

‖ *Letters of Sir Augustus Frazer*, p. 532.

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bowing until his head almost touched his horse's mane, but could not speak. In the great fight his troop formed one of the six which were attached to the cavalry, but, like the rest of the Horse Artillery, it was soon brought into action in the front line. The battle was, as Sir James Shaw Kennedy expresses it, a drama in five acts, the third in which was the celebrated succession of cavalry attacks on the Allied line between Hougomont and La Haye Sainte, commencing about 4 o'clock. His battery was placed a little to the left rear of Hougomont, and there before the end of the day it had lost four officers out of five. The charges of the French cavalry were preceded by clouds of skirmishers and by a tremendous artillery fire, and at no period of the day were the losses among the artillery more severe, the French shot opening a perfect lane through them. Any who knew Ramsay well said that the remembrance of his unjust treatment led him to court unnecessary exposure throughout the day. Whether that was the case or not, we know that among those who fell then was Norman Ramsay. A bullet, passing through the snuff-box which he carried, entered his heart, and he was where sorrow and injustice are unknown. "During a momentary lull in the battle," wrote Sir Augustus Frazer, "I buried my friend Ramsay, from whose body I took the portrait of his wife, which he always carried next his heart. Not a man assisted at the funeral who did not shed tears. Hardly had I cut from his head the hair which I enclose, and laid his yet warm body in the grave, when our convulsive sobs were stifled by the necessity of returning to renew the struggle." Frazer afterwards erected a monument in the church at Waterloo, with an inscription to Ramsay's memory. The body was a few weeks afterwards disinterred and sent to Edinburgh, where, on August 8th, it was buried in the churchyard of Inveresk, the burial-place of the family, as the only consolation to his aged father, half-demented with grief, for he was fated to lose his three gallant sons* in the short space of eight months.

If there is one name more familiar than another to the artilleryman it is that of Norman Ramsay: he was the pride and glory of the

* Lieutenant A. Ramsay, R.A., was killed at New Orleans, January 1st, 1815; and Lieutenant D. Ramsay, R.N., died in Jamaica on July 31st, 1815.

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branch of the Army to which he belonged. He joined the regiment in 1798 at the age of sixteen, and he fell at the age of thirty-two, and yet in that short space of sixteen years he had gained the love of his brother officers without exception, the devotion of his men, and the admiration of all. In him were combined all the virtues which compel affection, and all the skill which commands respect. Even to-day the officers speak of him with profound admiration.* He was devoted to his profession and proud of his troop, and this pride made the men strive to be worthy of his good opinion, for his professional ability and his personal qualities together attracted their admiration and affection. When he fell, no one was more genuinely mourned; there was a universal feeling that the regiment had lost a man difficult, or even impossible, to replace; and that feeling has endured to this day. Beneath his picture in the mess at Woolwich hang relics and trinkets which belonged to him, and which are cherished with something like affection by his brother officers of the present time. The photograph of his grave hangs there, too, and copies of it are to be found in many an artillery officer's house or quarter. That a man who died, when only a brevet major, more than a century ago should have aroused such long-enduring enthusiasm stamps him as a soldier of more than ordinary mould.

* See Duncan's *History of the Royal Artillery*, and Major E. S. May's *Guns and Cavalry*.

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RAMADI.

AFTER the capture of Baghdad in March, 1917, Sir Stanley Maude moved out against the Turks wherever they could be found, and dealt them a series of crushing blows, firstly at Istabulat, resulting in the capture of Samarra, next on the Dialah river, and finally on the Adhaim river. Thus Baghdad was protected during the summer months by our line Felujah on the Euphrates, Samarra and Sindiyeh on the Tigris, and Baqubah on the Dialah; while the main part of the Army was held concentrated on the Tigris ready to meet any further threat by the enemy along either of these three possible lines of advance.

Reports were current that the Turks intended to launch a big autumn offensive, with the object of retaking Baghdad. General von Falkenhayn had visited Mosul and Aleppo. It was unlikely that the Turks would advance direct down the Tigris to hurl themselves against the quasi-fortress defences of Samarra. The Commander-in-Chief therefore planned early in the autumn to occupy the town of Hit, a possible advanced base for a Turkish concentration on the Euphrates, being in direct communication with Aleppo and Mosul. Having thus secured his left flank, he further determined to seize the range of the Jebel Hamrin, on either bank of the Dialah, which would bar the approach of the Turks from Mosul, via Kirkuk, or from Persia.

To capture Hit it was first necessary to deal with the enemy detachment at Ramadi, half-way house between Felujah and Hit, where they were already collecting supplies. An attempt was made by a small column from our posts in front of Felujah to take Ramadi by surprise on June 8th. The surprise was not effected: our column met with equal numbers

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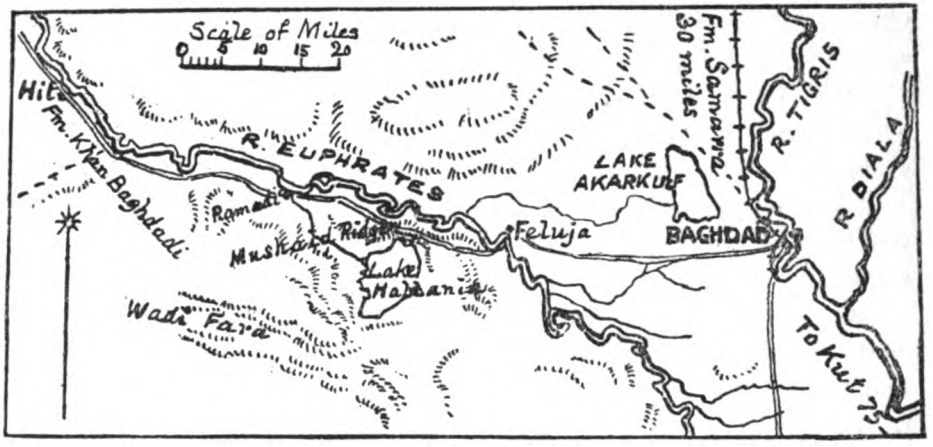
and, suffering agonies from lack of water and the intense heat, was forced to fall back.

The 6th Cavalry Brigade* of the Mesopotamian Cavalry Division spent the summer at Chaldari, on the banks of the Tigris above Baghdad.

On September 18th they left for Felujah, arriving on the 20th, and coming under the orders of General Brooking†, commanding the 15th (Indian) Division.

It was still very hot and the dust on the march was suffocating. The force at General Brooking's disposal consisted of two of his own Brigades and one of the 17th (Indian) Division, with two Howitzer Batteries in



addition to his Divisional Artillery and the 6th Cavalry Brigade. On September 26th our Infantry Brigades were at Mahdij, on the right bank of the Euphrates above Felujah, with one regiment on the left bank.

The Turkish force at Ramadi included 120 cavalry, supported by 1,000 Arabs; the cavalry operated on the left bank and practically took no part in the operations. The infantry, 3,500 rifles with 12 guns, held a strong line of entrenchments on the right bank along the Mushaid Ridge

*The 6th Cavalry Brigade, commanded by Brigadier-General P. Holland-Pryor, C.B., C.M.G., D.S.O., M.V.O. 14th (King's) Hussars. 21st Cavalry. 22nd Cavalry. "V" Battery R.H.A. (temporarily replacing "W" Battery). 15th Squadron M.G.C.

†Now Major-General Sir H. T. Brooking, K.C.B., K.C.S.I., K.C.M.G.

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from the river to the Habbaniyeh lake, and a second stronger line, two miles in rear, along the western bank of the Habbaniyeh Escape Canal, with the right flank refused and entrenched as far as the Aziziyeh Canal, which ran out southwards to the desert from the Euphrates at Ramadi.

The Escape was known to be full of water, and could only be crossed at the dam just above the lake level; the Aziziyeh Canal was reported full of water.

It was impossible for our infantry to march round the lake, as the distance was too great, and the water brackish and undrinkable. It was essential first to take the Mushaid Ridge by assault.

An hour before dawn on September 28th the 6th Cavalry Brigade, having left Felujah on the 26th, reached their point of assembly, three miles above Mahdij. The infantry had moved forward during the night and were now in position to attack the ridge. The Cavalry Brigade moved on one-and-a-half miles north, which brought them to the river where they watered and fed.

It was now broad daylight, our infantry could be seen approaching the ridge and our guns opened on it. The infantry were soon on top, and it was evident that the ridge had not been occupied by the Turks. Although Mushaid Ridge was strongly entrenched the enemy had not had sufficient time to dig communication trenches with their second position, and presumably for that reason they elected not to hold the ridge.

At 7.30 a.m. Lucas's Brigade was reported to have secured the dam across the Escape; the Cavalry Brigade moved off and reached and crossed the dam at 9.45 a.m. The Turks were shelling the crossing intermittently and it was fortunate that they had not got it registered accurately, as a useful barrage would have made it awkward for anything except infantry, the Escape being unfordable.

At 10 a.m. the cavalry were moving south-west; the infantry were approaching the enemy's position on Double Hill, south-east of Ramadi. A patrol of the 14th Hussars sent to reconnoitre the Aziziyeh Redoubt, which lay between Double Hill and the Aziziyeh Canal, found it strongly held. This patrol was led by Lieutenant V., who had fought against us in the South African War.

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By noon the infantry attack was well launched and the cavalry had reached the Aziziyeh Canal at a point eight miles south of Ramadi.

The canal was dry except for a few pools and the brigade watered with difficulty. Ramps had to be cut through the canal banks to make them negotiable for guns and wheeled traffic, and this work took large parties from each regiment over an hour to accomplish.

The Cavalry Brigade resumed its march in a south-westerly direction, the 14th Hussars forming the advanced guard. After marching five miles into the high desert plateau, General Holland-Pryor changed the direction of the brigade west and again north-west, and, at 3.30 p.m., they came to the edge of the high ground overlooking the low alluvial plain and the river one-and-a-half miles above Ramadi.

The leading troops were just too late to stop three motors which were speeding away towards Hit, but they turned back 50 horsemen into the town. Casualties were occurring on the right flank from guns and pom-poms firing from the town.

The Brigadier sent on a Staff Officer in an armoured car, and a satisfactory reconnaissance was carried out; the situation was quickly revealed and acted upon.

By 4.30 p.m. the Cavalry Brigade had taken up a position with their left across the road, with a strong point on the river bank; the centre ran along a low ridge (Cavalry Ridge) approximately east and west, in front of the desert plateau; the right was on a spur of the high plateau itself which ran out westwards towards Cavalry Ridge.

Three squadrons of the 14th Hussars blocked the Aleppo road, two squadrons of the 21st Cavalry connected them with Cavalry Ridge, where the 15th Machine Gun Squadron and two squadrons of the 22nd Cavalry held the line. Behind them were Brigade Headquarters, with the battery to their right rear. On the high plateau one squadron of the 14th Hussars, which during the march had been acting as right flank guard, now held a position covering the right of the brigade. At dusk the line here was further extended towards the south by the two remaining squadrons of the 22nd Cavalry. The led horses were behind Cavalry Ridge. Troops proceeded to dig such shelter as was possible with the few tools available.

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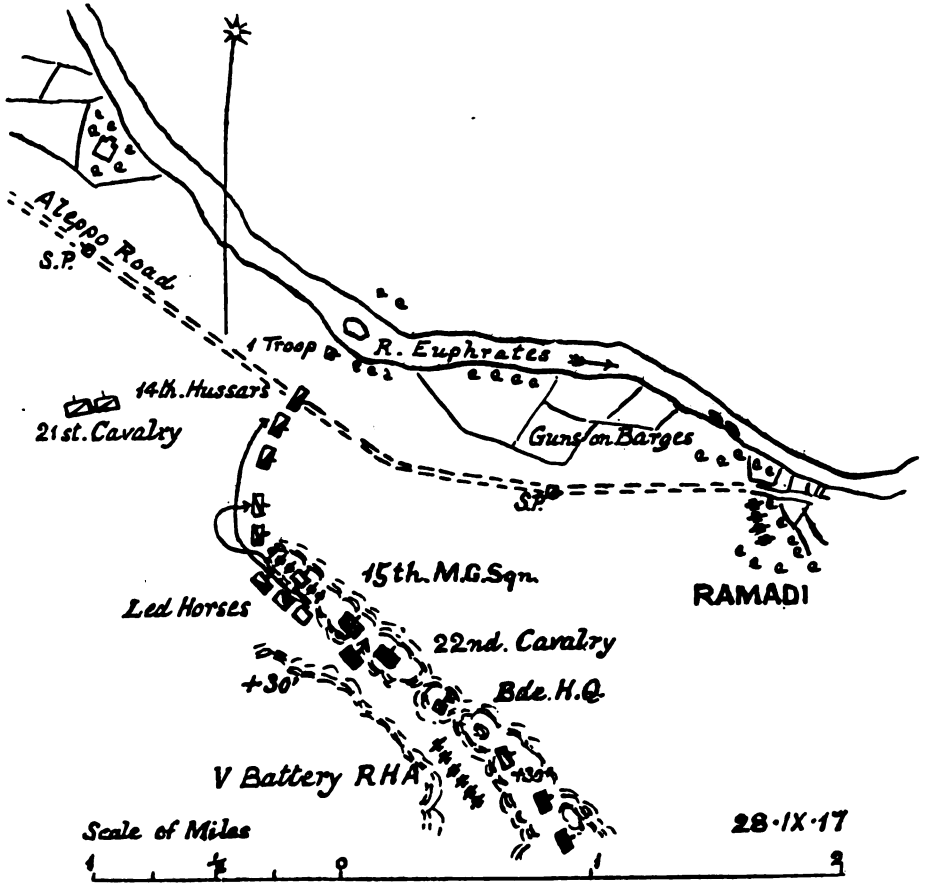
At 5 p.m. the guns and pom-poms opened fire again, but most of the shells were going over; the firing was chiefly from two guns mounted on barges just above Ramadi. "V" Battery opened on these and made some remarkably good shooting, and later on in the night silenced both guns and set one of the barges on fire.



At 6 p.m. the Brigadier received a message from General Brooking to say the infantry, after heavy fighting, had ringed round the Turks between the Euphrates and the Azizyeh Canal, and that it was of paramount importance to keep the road closed. Two standing patrols were

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sent out at dusk; one under Lieutenant G., 14th Hussars, to watch the approaches from Hit, whence enemy reinforcements were expected; one under Lieutenant M., 14th Hussars, to watch the road from Ramadi. Two squadrons of the 21st Cavalry were moved out towards the west to protect the rear of the brigade.

At 1 a.m., September 29th, Lieutenant M. sent in a report that the enemy were advancing along the Aleppo road; later he reported that 40 cavalry had passed between him and the river, and that about 400 infantry were halted on the road, quarter mile in front of him. An hour later he rode in to report to Colonel Hewitt, commanding the 14th Hussars, that he had been fired on from his left rear, and that there appeared to be a big body of infantry behind the party he had already reported. Colonel Hewitt asked him to stay out and keep touch as long as possible. He returned to his patrol and half an hour later returned with them; he had walked back practically with the enemy, who could be seen plainly in the bright moonlight not 400 yards away, and he brought them right on top of the regiment.

Owing to the wide extent of front held it had not been possible to allow for reserves, and every man was in the firing line.

Cavalry in Mesopotamia at this time were not armed with the bayonet, so that everything depended on completely surprising the advancing enemy by a sudden concentrated burst of fire.

At 2.45 a.m. Colonel Hewitt gave the order to open fire. Ten Hotchkiss guns and all the rifles went off almost in a volley, and the fire of the 14th Hussars was soon taken up by the remaining parts of the line. The enemy immediately checked, and although in some cases they crept forward to within 150 yards, the first burst of fire really decided the action. The enemy's rifle fire was heavy but not very effective. Their guns and pom-poms opened again, only to be silenced by "V" Battery. The blaze of the burning barge threw the rest of the country into corresponding gloom, and it was difficult to make out the enemy's movements; on the other hand, the full moon began to sink behind the backs of the brigade, showing up men and animals in silhouette and enabling the Turkish riflemen to inflict an increasing number of casualties. Lieutenants

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Meade and K., of the 14th, were wounded, and the former was not destined to recover.

An hour later the enemy's fire abated, and it was necessary for the brigade, too, to husband their ammunition.

The post on the river bank being too isolated had been forced to withdraw, and the enemy were beginning to work round the left flank. In half an hour's time it would be light, the enemy would be able to enfilade the left of the position from the river bank, and it was still possible that they might be contemplating an attack at dawn.

At this critical period Colonel Hewitt was mortally wounded; he was carried away to the dressing-station and died in Felujah Hospital on the evening of the 30th.

The 14th Hussars, under the direction of Major W., wheeled back to a position at right angles to their original one, and facing the river; thus they could not be enfiladed nor could the enemy pass between them and the river in daylight. The new position was very exposed, and they suffered some casualties from snipers on the river bank, but the dawn revealed that the road was ours and that the enemy had withdrawn into Ramadi.

At 7 a.m. the 21st Cavalry were ordered in pursuit of 400 enemy, supposed to have escaped along the right bank of the river; they were supported by all four squadrons of the 14th Hussars, now under the command of Major B.

These regiments went some seven miles along the Aleppo road; they heard that twelve Turks had passed up that way during the night and that a number, up to 300, had gone up on the other bank in the early hours of the morning. Further pursuit being useless they turned off to the river to water; many of the horses had not had a drink since midday 28th, so they were glad of it—a picturesque village on the Euphrates, mud huts, willows and date palms along the river banks, and well stocked vegetable gardens; the Arab inhabitants quite unconcerned with the events which had just taken place.

On returning to Cavalry Ridge news was received that the Turkish commander had marched out of Ramadi under a flag of truce at 11 a.m. that morning, that the whole Turkish force had been taken, that the

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enemy had determined to retreat along the Aleppo road by night, but had given up the attempt on finding their way so effectively barred by the Cavalry Brigade, from whose fire they had sustained casualties, estimated by themselves at 600 killed and wounded.

Two long columns approached the bridge over the Aziziyeh Canal that evening: from the west the Cavalry Brigade moving to their bivouac, from the east a big batch of prisoners being brought in by the infantry.

In his address to the 6th Cavalry Brigade on their return to Baghdad the Commander-in-Chief praised them for the long distances covered and long hours spent in the saddle and without water, for natural difficulties overcome, and he pointed out how they had achieved one of the principal aims of cavalry action by "throwing themselves just at the right moment across the enemy's line of retreat and blocking the Aleppo road."

Up to this time cavalry in Mesopotamia had not been able to cut off the enemy from their line of retreat, as lack of transport and the large number of Arabs opposed to them rendered such manœuvres if not impossible at least hazardous; certain opportunities were also allowed to slip. Subsequently the envelopment of the enemy's forces was repeated by the 11th Cavalry Brigade at Khan Bhagdadi—twenty miles above Hit—with equal success, whilst a still more brilliant feat was effected by the 7th and 11th Cavalry Brigades at Shergat, in October, 1918, where they placed themselves across the Turkish communications, having crossed both the Zab and the Tigris without bridges.

In Mesopotamia, owing to the predatory nature of the Arabs, it was necessary for a force to march well closed up; the rate of march of cavalry was therefore reduced to that of the slowest moving units, and the greater part of all marches was done at a walk. The distance covered by regiments at Ramadi—thirty-three miles in thirty-six hours, without off-saddling and with a low proportion of casualties in horse-flesh, was creditable.

In a battle the final result may often depend on the successful conduct of a minor operation. The action of the standing patrol on the Ramadi road is a case in point. Had this patrol acted with less discretion and determination it is probable that the enemy, trying to force their way out of Ramadi, would have stumbled against the thin encircling

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line of the 6th Cavalry Brigade, or deliberately attacked them—in either case they surely must have broken through. The action of this patrol, by enabling their commanding officer to reserve his fire till the crucial moment, gave him the opportunity of effecting that fire surprise which was essential to success. Admirable fire discipline was displayed, as in spite of the fact that the enemy could be discerned within 400 yards not a shot was fired until the order to fire was received.

The Battle of Ramadi was fought by very small numbers on each side, as compared with the main titanic contests of the Great War; it was nevertheless described by Sir Stanley Maude as "an instance of as clean and businesslike a military operation as one could wish to see."

HAWK.

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CAVALRY IN MESOPOTAMIA IN 1918.

By LIEUT.-GENERAL SIR H. D. FANSHAWE, K.C.M.G., C.B.

DURING the summer of 1918 the railway line up the right bank of the Tigris, from Baghdad to Saniarrah, had been continued to Tekrit, and a bridge of boats was constructed across the Tigris at the latter place. This bridge was the only crossing available for our troops and transport within the sphere of operations. Although the river was at this time of year at its lowest level, it was quite unfordable; the stream was strong, and about 500 yards broad. Owing to the many rapids, rocks, and shifting mud-banks, it could not be used for water transport. About 30 miles north of Tekrit the Tigris flows through the Fathah Gorge, a narrow gorge in a steep rugged range of hills. This range of hills forms a great barrier across the plain, and from the south can be seen in the distance for miles. It runs from north-west to south-east, and can only be crossed by a few difficult passes. For about 50 miles above the Fathah Gorge the Tigris flows close under the north-eastern face of the hills, which in this part are known as the Jabel Makhul. Sixteen miles north of the Fathah Gorge the Lesser Zab river joins the Tigris from the north-east. South of the Fathah Gorge the river takes a southerly course through the plain, and at Tekrit is about 25 miles from the hills. In the autumn there is scarcely any water to be found except in the Tigris and Zab rivers, so animal transport cannot be used at any distance from the river. Motor vehicles can move anywhere over the plains, except where blocked by dried-up watercourses, and in places by deep sand. There is a pass over the Jabel Hamrin at Ain Nakhailah, about 35 miles south-east of Fathah, where there is a good supply of water from springs. There

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is also a very steep rough mule track over the range at Tarfawi, about half-way between Fathah and Ain Nakhailah; here, too, there are some small springs of water.

The final operations against the Turks in Mesopotamia, in October, 1918, were carried out by the Ist Indian Corps, under command of Lieut.-General Sir Alexander Cobbe, V.C., with attached troops including the 11th and 7th (Indian) Cavalry Brigades, which had marched up from their summer camps near Baghdad, about 120 miles. The 11th Cavalry Brigade, under Brig.-General R. A. Cassels (32nd Lancers), consisted of the 7th Hussars, Guides Cavalry, 11th (Indian) Lancers, 25th Machine Gun Squadron, W Battery R.H.A., and No. 5 Field Troop 1st Sappers and Miners. The 7th Cavalry Brigade, under Brig.-General C. E. G. Norton (7th Hussars), consisted of the 13th Hussars, 13th (Indian) Lancers, 14th (Indian) Lancers, 16th Machine Gun Squadron, V Battery R.H.A., and the 7th Field Troop R.E. The corps cavalry regiment was the 32nd (Indian) Lancers

The troops were concentrated about Tekrit, the 17th Division on the right bank of the Tigris, the 18th Division with the 7th Cavalry Brigade on the left bank. The 11th Cavalry Brigade were held in reserve.

The Turkish forces operating in Mesopotamia were the Sixth Army, under command of Ali Ihsan Pasha, with his headquarters at Mosul. In the autumn of 1918 there were about 8,000 men opposing our advance on the Tigris, under Ismail Haqqi Bey, another 2,000 on the Lesser Zab and Kirkuk district, and about six or seven thousand in other groups which might be brought into reserve. There were about 60 or 70 guns on the Tigris, mostly 4·5-inch and field guns. The guns of larger calibre had been moved the previous year for use on other fronts. The Turks had prepared a very strong position astride the river at the Fathah Gorge, both flanks established on the rugged hills, with the waterless plains beyond. They had a second position thoroughly prepared, and perhaps equally strong, about 13 miles farther north, astride the Tigris at Humr, with its right on the Jabel Makhul and its left on the right bank of the Lesser Zab, which in this part is a precipitous cliff commanding the whole plain to the south.

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In May, 1918, when the IIIrd Indian Army Corps were operating on the Kirkuk front, the Ist Corps and 7th Cavalry Brigade made a demonstration up the Tigris, with a view to holding the Turks in that direction. A small column, including the 7th Cavalry Brigade, seized the Ain Nakhailah Pass, and the cavalry, with a Lewis gun detachment in Ford cars, reconnoitred the northern face of the Jabel Hamrin and the rear of the Fathah position. At the same time the 32nd Lancers, supported by armoured cars, reconnoitred up both banks of the Tigris to the Fathah position. It was chiefly on the information obtained by these reconnaissances that the plan of the operations in October was based.

The general plan was that on a certain day, afterwards fixed to be October 24th, the troops on the left bank of the Tigris were to attack the Fathah position on that bank, turning its flank, and to be ready on the following day to support an attack by the 17th Division if the enemy still held on to the portion of the position on the right bank. As soon as the Fathah position was captured the troops were to push on and secure the line of the Lesser Zab. The 11th Cavalry Brigade and the light armoured cars were held in reserve ready to exploit a success by making a wide turning movement and blocking the enemy's line of retirement, which ran up the right bank of the Tigris to Mosul. Brig.-General Cassels, in a motor-car escorted by light armoured cars, made a personal reconnaissance of the plains to the west of the Jabel Makhul, and found that the lack of water made this route impracticable for the movement of a cavalry brigade. For this reason it was decided that the 11th Cavalry Brigade should operate on the left bank, move beyond the right flank of the advance, and cut the Lesser Zab about Sadyah, ready to co-operate with the 7th Cavalry Brigade if required, or to push on and endeavour to cross the Tigris above Shergat so as to cut off the enemy's retreat. At the same time a small column from the IIIrd Corps, under Brig.-General Lewin, was to operate against Kirkuk to contain the Turks on that front and prevent them moving down the Lesser Zab against the right flank of the Ist Corps.

On the morning of October 18th, two columns, having marched from the banks of the Tigris during the night, simultaneously seized the passes

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over the Jabel Hamrin at Ain Nakhailah and Tarfawi. The water supply at these places was organised and the passes over the hills improved. The pass at Ain Nakhailah was made practicable for all wheeled transport, but the rugged steep track at Tarfawi could only with difficulty be made possible for the passage of pack animals.

A footing having been secured on the Jabel Hamrin, the following instructions were given for the attack on the Fathah position (left bank) :

(*a*) For a column, under Brig.-General Nightingale, to move along the crest of the Jabel Hamrin and attack the flank of the enemy's position at daybreak on the 24th.

(*b*) For the remainder of the 18th Division to attack between the hills and the river.

(*c*) For the 7th Cavalry Brigade to move north of the Jabel Hamrin and be in rear of the enemy's position by daylight on the 24th.

(*d*) For the 11th Cavalry Brigade, on October 24th, to march from the Ain Nakhailah springs to the Lesser Zab, about Sadyah.

With a view to carrying out the tasks assigned to them the two cavalry brigades were very carefully organised before leaving the Tigris. All weakly men and horses, and other personnel, equipment and kits not absolutely necessary for fighting efficiency, were left at Tekrit. With the assistance of the extra transport thus obtained it was arranged to carry two days' rations for the men and two days' corn for the horses, in addition to the current day's ration and emergency ration for man and horse, carried on the horse. A depot was formed at Ain Nakhailah, with sufficient supplies to enable both brigades to start from there with the above rations complete. It was also arranged to send a convoy of Ford vans to Lesser Zab, on the 24th, with one day's supplies for the 11th Cavalry Brigade. Both cavalry brigades were provided with a mobile wireless telegraph section.

On the night of October 21st-22nd the 7th Cavalry Brigade marched from Tekrit to Ain Nakhailah, and bivouacked north of the pass, a distance of about 30 miles. The 11th Cavalry Brigade marched there on the 23rd, on which day the 7th Cavalry Brigade moved on to a point north of the hills, opposite Tarfawi, where the Royal Engineers detachment, under Major Drew, had collected sufficient water to give the horses

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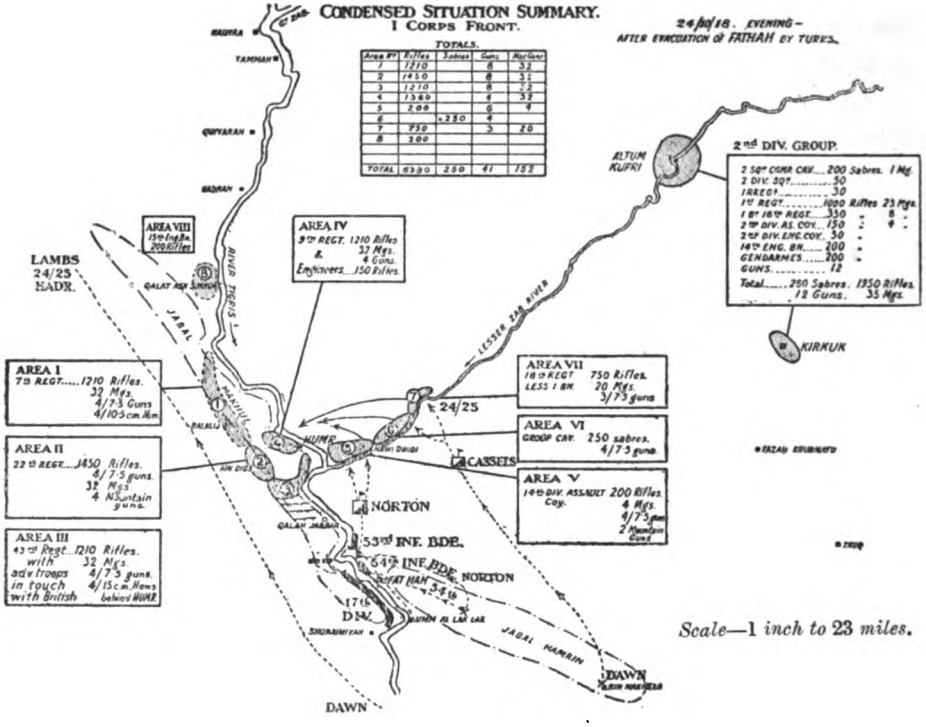
one small drink. After watering the horses the 7th Cavalry Brigade continued their march during the night, and were in their appointed position, north of Fathah, by daylight on the 24th. But the enemy had already evacuated the position.

The Turks having counter-attacked the advanced posts of the 18th Division on the 22nd, held their trenches till the evening of the 23rd, but when Nightingale's column advanced along the hills to attack, they



retired without further fighting, and evacuated the whole Fathah position. They fell back to their second position at Humr and the Lesser Zab.

At daybreak on the 24th Norton, finding that Nightingale's column was in possession of the Fathah position, watered his horses in the Tigris, and pushed on with his brigade towards the Lesser Zab. He sent forward officers' patrols to reconnoitre that river and endeavour to locate fords. Lieut. Rivett-Carnac, with a patrol of the 13th Lancers, was the only

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one who succeeded in finding a practicable ford; this was about six miles east of the junction of this river with the Tigris. The patrol crossed the ford and brought back six prisoners with some valuable information. At about 4 o'clock in the afternoon Norton's guns came into action against the enemy's guns and troops moving on the north bank of the Lesser Zab; they remained in action until dark. The brigade went into bivouac near the river, but was later forced to retire owing to heavy shell fire, and the wireless telegraph section was temporarily lost, which caused considerable inconvenience.

The 11th Cavalry Brigade, on October 24th, left their bivouac near Ain Nakhailah at 2 a.m., and at 6 a.m. halted to water their horses at some water holes about 12 miles farther north. Here a message was received by aeroplane to the effect that the 18th Division reported that the enemy had evacuated the Fathah position on the left bank, but that the 17th Division reported the right bank still held. The march was resumed, and later a second aeroplane landed near the head of the column with a message from headquarters, timed 8 a.m., stating that the enemy had completely evacuated the Fathah position, and that our troops were advancing on both banks of the Tigris. On receipt of this information Cassels decided to make straight for the Lesser Zab at Uthmaniyat; he informed corps headquarters of his movements in a message sent by the aeroplane, a copy of which was to be dropped on the 7th Cavalry Brigade. The advanced guard, which consisted of the 7th Hussars, a section of W Battery R.H.A., the 5th Field Troop, and a section of the Machine Gun Squadron, approached the Lesser Zab about 3 o'clock in the afternoon; there appeared to be no enemy in the vicinity. A contact aeroplane, which had just flown over, also thought that the opposite bank was unoccupied, and proceeded to land near the ford, but on landing came under machine-gun and rifle fire. The machine was badly damaged, but the pilot and observer escaped unhurt. Shortly afterwards the enemy opened fire with four field guns, and it became evident that he was in some strength on the right bank, covering the ford. The two Horse Artillery guns came into action, and were greatly assisted by another aeroplane, which arrived about 4 o'clock, and observed for them. In the meantime a possible crossing, four-and-a-half feet deep,

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was discovered about a mile below the regular ford, and the 7th Hussars and section of the Machine Gun Squadron were ordered to cross there. By half-past 4 the crossing was successfully accomplished, and having gained a footing on the bluff the 7th Hussars started working round the enemy's right, but the Turks, finding that their flank was being turned, retired in a north-westerly direction, covered by a strong rearguard, which held on until dark. The brigade, having marched nearly 50 miles during the day, had successfully forced a crossing of the river, in face of an enemy estimated at about 800 men with four guns and some machine guns, and thereby cut the Turks' main lateral communications. The troops went into bivouac after dark, occupying both banks of the river. The Ford van convoy, with a day's supplies, arrived early next morning, and the empty vans were at once sent back with the wounded and prisoners. The wireless machinery having temporarily broken down, the brigade was out of touch with headquarters until an aeroplane arrived in the morning. In the course of that day the ford was made passable for guns and transport. Cassels also established communication with Norton by patrols, and visited him personally.

On October 25th the 7th Cavalry Brigade and leading brigade of the 18th Division advanced at 5 a.m. to the Lesser Zab, under fire of the enemy's gun and machine-gun fire from the cliffs on the opposite bank, but by 10.30 the cavalry had crossed by the ford which had been discovered the previous day by Rivett-Carnac, and so turned the enemy's flank. This greatly assisted the infantry, who by 4.30 in the afternoon had occupied the high ground north of the river. The Turks retired to the right bank of the Tigris by a pontoon bridge, covered by very heavy gun and machine-gun fire from the opposite bank. As soon as the 7th Cavalry Brigade were across the Lesser Zab, Norton pushed on round the enemy's rear, and then cleared the left bank of the Tigris for 12 miles to the north, capturing over a hundred prisoners. That night the brigade bivouacked near the infantry on the northern bank of the Lesser Zab.

On the morning of the 26th information was received that the attacks by our troops on the right bank of the Tigris had been repulsed with considerable loss, and the troops on the left bank were instructed to give as much support as possible to the further attacks of the 17th Division

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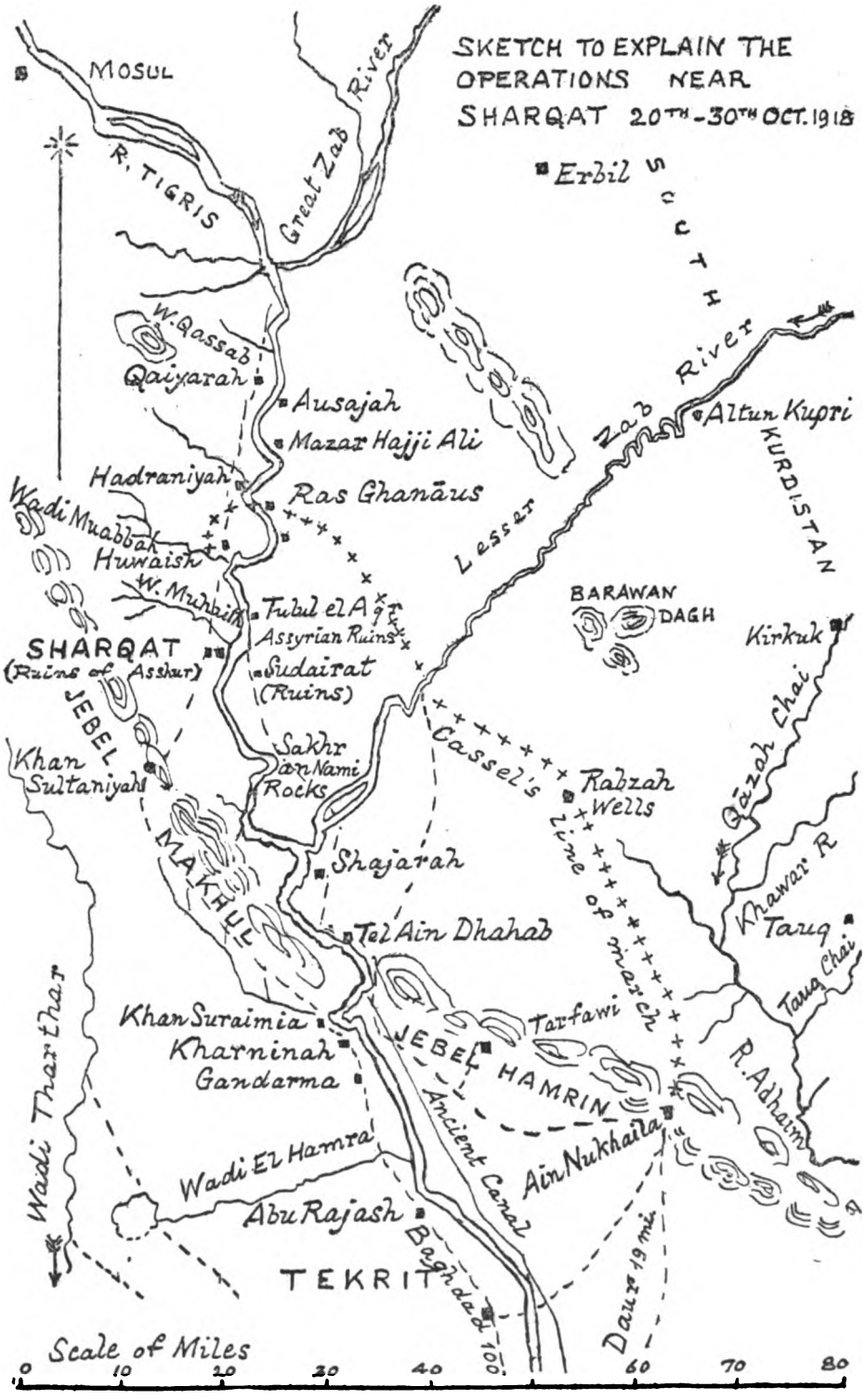

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on the Humr position. The further advance up the left bank was therefore postponed. The 17th Division were again unable to make any progress during this day, and suffered further losses. In view of this, orders were received in the evening for the 7th Cavalry Brigade, which had been reconnoitring towards Shergat, to march back and form part of a corps reserve. The brigade started at 3.30 a.m. on the 27th and marched about 16 miles, to where a bridge of boats had been thrown across the Tigris, near Fathah.

In the meantime the 11th Cavalry Brigade, having received orders to push on to the Tigris above Shergat and endeavour to cross, moved off from the Lesser Zab in a north-westerly direction at 6.30 on the morning of the 26th. No water was found on the line of march; a halt was made at 11 o'clock to feed, and at 1 o'clock the brigade arrived at a spot opposite Huwaish, from which a good view of the Tigris was obtained. Patrols were sent out on a wide front to reconnoitre the river. Cassels selected the high ground overlooking the Huwaish nullah as the most likely looking position for the brigade to make for, on the opposite bank. By the assistance of a local Arab, a possible ford was discovered; it was difficult, and entailed crossing three branches of the river, the last of which was five feet deep, with a swift current, but the bottom was good. By 4.30 Cassels himself, with the Guides Cavalry, had crossed, and having placed a guard over a captured Turkish hospital, which was found in a building near, they galloped to the previously selected position, and occupied it without opposition. By 6.30 p.m. the Guides Cavalry, 23rd Cavalry, Machine Gun Squadron, and one section of W Battery were across and occupied the position astride the Mosul road. The remainder of the brigade with the transport bivouacked on the left bank, the wireless station being erected there. At 9 o'clock a wireless message was dispatched informing headquarters of the situation. Cassels, not having heard that the advance of the 17th Division had been checked and that the 7th Cavalry Brigade had been called back into reserve, expected next day to meet the retiring Turks.

At 3 a.m. on October 27th Cassels received a message from Corps Headquarters at Shuraimiyah, timed 5.45 p.m., October 26th, to the following effect:—(*a*) That the right bank attack had made no progress

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during the day. (*b*) That air reconnaissance indicated that Turkish reinforcements had reached the Shergat area. (*c*) Asking where the Ford van convoy with supplies should be sent. No information of the recall of the 7th Cavalry Brigade was received until a message was dropped by an aeroplane at 7.45 a.m. The observer in this aeroplane also reported movement of the enemy from Humr towards Shergat, which looked as if the Turks were withdrawing from the former position. Earlier in the morning a squadron of the 23rd Cavalry, reconnoitring to the south, found infantry with machine guns and three field guns in position; the guns were firing on our light armoured motor cars. These L.A.M. cars had made a wide circuit of the enemy's positions on the right bank of the Tigris, and joined hands with the 11th Cavalry Brigade. About noon confirmation was received by aeroplane of the enemy's withdrawal from the Humr position and his retirement to a position just south of Shergat. At the same time information was received from a patrol, which had been sent to the north, that enemy infantry, about 400 strong, were advancing south along the road from Mosul, and were at 11.20 about 14 miles north of Huwaish. A squadron of the 7th Hussars was immediately dispatched to hold off this detachment. With a view to ascertaining the enemy's strength and exact position to the south, the 23rd Cavalry were ordered to attack, under cover of the fire from the guns of W Battery, all of which were now in action on the right bank. It was soon evident that the enemy was at least a thousand strong, with machine guns and four field guns, and the regiment, having accomplished its mission, was withdrawn, but the horse artillery continued to fire, having an excellent target. In the course of the afternoon the advanced infantry brigade and artillery of the 18th Division, marching up the left bank, got in touch with Cassels by patrols. Cassels also heard by wireless telegraph that the 7th Cavalry Brigade was being sent forward again next day. A ferry had been established over the river, green forage for the horses collected from the crops on the banks, and a supply of 18-pounder shrapnel, which was urgently required, had arrived from the 18th Division. The night passed quietly and the dismounted patrols reported no movement on the part of the enemy.

On the morning of October 28th, in spite of the assistance that was

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gradually approaching from the troops advancing up the left bank, the 11th Cavalry Brigade was in a very critical position, with the whole weight of the Turkish army threatening to overwhelm it from the south, and another force coming down from the north. But Cassels was the right man in the right place, ready to take risks when a decisive success was to be gained.

At about 7 a.m. the Turkish infantry was seen advancing from the south, two miles from our position, on a front of about 700 yards, with its right on the river. At the same time a message was received, from the officer commanding the 7th Hussars detached squadron, that the enemy's reinforcements from the north were commencing to work round his left flank. Two L.A.M. cars were sent to his assistance. At about 7.20 the Turkish artillery, estimated at 24 guns, opened fire on the cavalry position and on the infantry column on the left bank. The Turkish infantry continued to come on in strength, but its advance was slow, owing to the accurate fire of W Battery and the enfilade fire from the 18th Division guns on the opposite bank, which were directed on the bursts of the Horse Artillery shells. Cassels then ordered the 7th Hussars to make a counter attack on the enemy's left. The regiment, having worked round, by a small valley, unobserved, suddenly attacked the left flank of the Turks, which fell back, and the whole advance was checked. At 11 o'clock the advance commenced again from the south, and large columns were seen moving, with the evident intention of turning Cassels' right flank. In the meantime his squadron to the north had been forced to retire about a mile, but had been reinforced by another half squadron. The remainder of the 7th Hussars, after carrying out the successful counter-attack, were ordered to extend the line to the north west, to protect the guns; later the right had to be further extended by the 23rd Cavalry, which were the only reserve. They were instructed to get in touch with the left of the 7th Hussars detachment, holding the enemy to the north. From the aeroplane reports there appeared to be about 3,000 Turks, with 24 guns in action, attacking Cassels from the south, and about 500 from the north, also large numbers occupying the broken ground near Shergat.

At 2 o'clock the leading company of the 7th Gurkhas arrived by the ferry, and relieved two squadrons of the Guides Cavalry, who were holding

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the left section of the front. These squadrons were sent at once to assist the 7th Hussars in meeting an attack which was being pressed under cover of heavy artillery fire. The remainder of the 7th Gurkhas on arrival took over from the other two squadrons of the Guides, which were now able to come into reserve.

Soon after 4 o'clock the 7th Cavalry Brigade, having marched nearly 50 miles since 1 a.m., arrived at the Hadraniyah ford, and at once commenced crossing, Norton himself having ridden on to confer with Cassels. He arranged to take over the northern front, on the right of the 11th Cavalry Brigade, and at once made a personal reconnaissance of that front. By 6 o'clock most of the brigade were over the river; 20 men had been lost in the crossing. It was too dark to attempt to get the Horse Artillery over, so V Battery remained for the night on the left bank, with a squadron of the 13th Hussars as escort. The weak detachment of the 7th Hussars was relieved by the 13th Lancers, and a support was found for the 23rd Cavalry. The remainder of the brigade bivouacked for the night near the river bank. During the night an enemy's ambulance, with about 200 men, mostly wounded, crossed the front of the 13th Lancers, and was captured. The Turks were very active all night on the 11th Cavalry Brigade front, the brunt of the attacks being borne by the Guides Cavalry and 7th Gurkhas.

Early in the morning of October 29th the 39th Garhwal Rifles arrived over the ferry, having marched 30 miles and crossed the Tigris since the previous morning. They went straight into the front line, relieving the 23rd Cavalry and Guides. Two field batteries from the 18th Division were also brought across the Tigris.

From his observation post at the Huwaish ruins, Cassels could see large numbers of troops three or four miles to the south, but the pressure on his front from the south-west had slackened. Had any of the enemy got away north, past his flank? was the question he asked himself. He thought not, but sent to warn Norton to be ready to follow if the enemy had retired northwards. At 8 o'clock an aeroplane reported that the most advanced troops of the 17th Division were about five miles south of his position.

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Meanwhile Norton, having personally been to confer with Cassels before daylight, arranged to clear out the enemy's detachment, which had been pushing down from the north, and then to sweep round towards the south, to completely block the retirement of the force falling back before the 17th Division. On his return Norton found that the ford had been heavily shelled, and that a squadron, ordered to push up the Mosul road, had at once come under shell and machine-gun fire, and had to retire. V Battery was unable to cross but came into action on the left bank. The river here flows down a flat valley, a low bluff-faced ridge running about a mile from the water on the right bank. The key of the enemy's position was on this bluff. The 13th Hussars, supported by the 14th Lancers and fire from V Battery, attempted to gallop across the open, with a view to dismounting at the foot of the bluff, but this move was stopped by heavy rifle and machine-gun fire from trenches on the crest. Later the 14th Lancers and a section of the Machine Gun Squadron successfully obtained a footing on the high ground farther south, with a view to preventing the northern detachment of the enemy joining hands with those opposing Cassels. The Turks then made a counter-attack, but this was driven back. A little after noon, under cover of a concentrated fire from V Battery on the left bank and from one of the field batteries which had come into action on the right bank, the 13th Hussars galloped across the open, dismounted at the foot of the almost precipitous bluff, and, led by Lieut.-Colonel Richardson, had in a few minutes carried the crest by assault, bayoneting some of the Turks in their trenches. By 1.30 the entire hill was cleared, and in conjunction with a mounted pursuit by the 13th and 14th Lancers, 985 prisoners, 12 machine guns, and 2 camel guns were captured; besides about 100 dead Turks left on the ground. This completely destroyed the Turkish 13th Regiment, which had just arrived from the 5th Division in Persia. It also cleared away all menace of attack from the north. The 7th Cavalry Brigade then swung round to the south to a position on Cassels' right, completely blocking the retreat of any Turks still in front of the 17th Division.

Instructions were issued for all available guns to bring a concentrated fire on to the Turkish position, from 3.0 to 3.30 p.m., at which hour the

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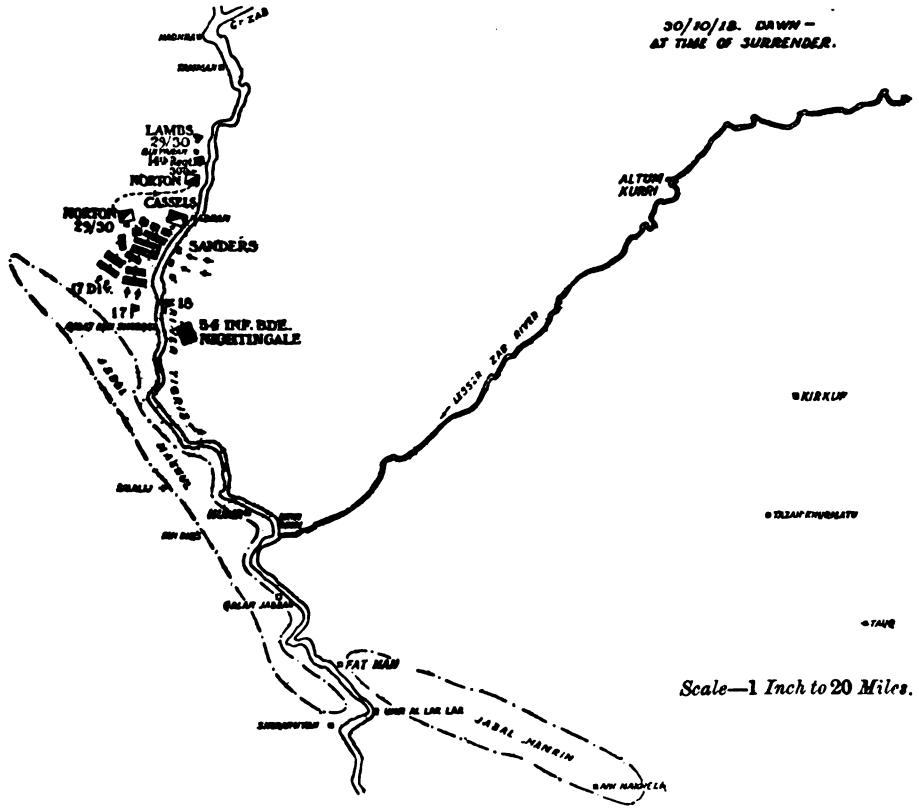
17th Division proposed to attack, but this attack did not develop till after 4 o'clock. It was met by a strong counter-attack, and, except on the extreme left, was driven back. Heavy fighting continued well into the night.

Cassels now having three infantry battalions and two field batteries from the 18th Division, in addition to the two cavalry brigades and L.A.M. cars on the right bank, made arrangements to close on the enemy next morning. Information was received that the 17th Division would be unable to resume the offensive before the afternoon.

At 6.30 a.m. on October 30th, just as the operations were commencing, the Turks hoisted white flags all along their front and surrendered.

Norton's brigade, with L.A.M. cars attached, were ordered to sweep the country to the north and west, to round up any detached parties of



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the enemy. About 1 o'clock Norton received a report from the L.A.M. cars that there was a considerable force of Turks, with camel guns, near Qaiyarah, and he at once moved in that direction. At about 3 o'clock, when he came within sight of the Turks, they were moving towards the river. The Horse Artillery came into action and opened fire, whilst the 14th Lancers and a section of the Machine Gun Squadron galloped round to cut off the enemy from the river; this they did in face of a heavy machine-gun fire, and the Lancers charged home, killing a number of the enemy, and capturing 302 prisoners, 10 machine guns and 2 camel guns. At the same time the 13th Lancers were sent to clear the hills to the west, and cut the Mosul road, north of Qaiyarah; this they did most successfully, capturing a large convoy and another 983 unwounded prisoners. The river steamer "Khalifa" was also captured, and a very large supply of grain and other useful munitions were found in Qaiyarah. Norton sent the L.A.M. cars, supported by a squadron and machine guns, 20 miles up the Mosul road, but no further enemy were reported. The troops captured at Qaiyarah were the 1st and 2nd Battalions and Machine Gun Company of the 14th Regiment of the 5th Division, from Persia.

During the day Cassels had collected 3,500 prisoners on his immediate front. The 11th Cavalry Brigade and attached 18th Division troops bivouacked for the night near the ferry. The 7th Cavalry Brigade remained at Qaiyarah.

Ismail Haqqi Bey, with his main body of nearly 5,000 men, surrendered to the officer commanding the advanced troops of the 17th Division. This made a total of over 11,000 prisoners and 50 guns captured in these operations.

On the afternoon of October 30th orders were received for the formation of a column, including the 7th and 11th Cavalry Brigades, to push on at once and occupy Mosul. Before the cavalry reached Mosul news was received of the armistice with Turkey having been signed, and Ali Ihsan Pasha, with the headquarters and disorganised remains of the Sixth Army, were allowed to withdraw to demobilise. By the complete defeat of the troops on the Tigris the Turkish army in Mesopotamia practically ceased to exist.

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I doubt if we can find any better example of good cavalry work than that carried out by the 7th and 11th (Indian) Cavalry Brigades on the Tigris. The plans for the operations were made from the useful reconnaissances made by the 7th Cavalry Brigade and 32nd Lancers. Then throughout the battle the cavalry took a conspicuous part, in close co-operation with the other arms, by continually turning the enemy's flank. Finally, it was by the cavalry that the fruits of victory were effectually reaped. Excellent work was done in these operations by the Air Force and light armoured motor cars, but it was clearly shown that their duties are supplementary to those of cavalry and cannot be a substitute for them. As usual the infantry had to do the brunt of the heavy fighting; it was only by the determined co-operation of all arms that the final and complete success was brought about.

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THE RIDING ESTABLISHMENT, R.H.A.

By Colonel J. E. C. Livingstone-Learmonth, C.M.G., D.S.O., R.A.

In 1803 the Riding House Department of His Majesty's Ordnance was instituted at Woolwich under Capt. Quist, a Hanoverian officer. The writer is not aware if Capt. Quist was the first German riding master imported into this country, but apparently another came from Prussia in 1815 to instruct the British cavalry. At this date and until 1822 the men in charge of the horses were drawn from the Corps of R.A. drivers, an organization with officers of its own, quite apart and distinct from the R.A. This system of dual control has been revived in the tractor-drawn artillery.

Capt. Quist remained superintendent until 1820, and from his portrait, date unknown, appears to have been a somewhat corpulent gentleman.

The system of training in the old days is an interesting study, but it is not proposed to deal with it here. The following anecdote, however, recalls one old practice; an officer who served in the troop many years ago is stated to have replied to his wife who was upbraiding him, no doubt for some imaginary crime, "If I have any more talk from you, I will take your crupper up two holes." He was recently challenged as to the veracity of this tale, and he said it might be partly true, but he was always a humane man, two holes was too severe, and he would never think of inflicting severer punishment than by taking it up one hole. This officer, who went through the Crimean War with the Horse Artillery, still enjoys the best of health, and it is hoped he will forgive a repetition of this yarn.

In 1830 the instruction of the cadets at the R.M.A., Woolwich, was commenced by the Riding Establishment, but on a very limited scale,

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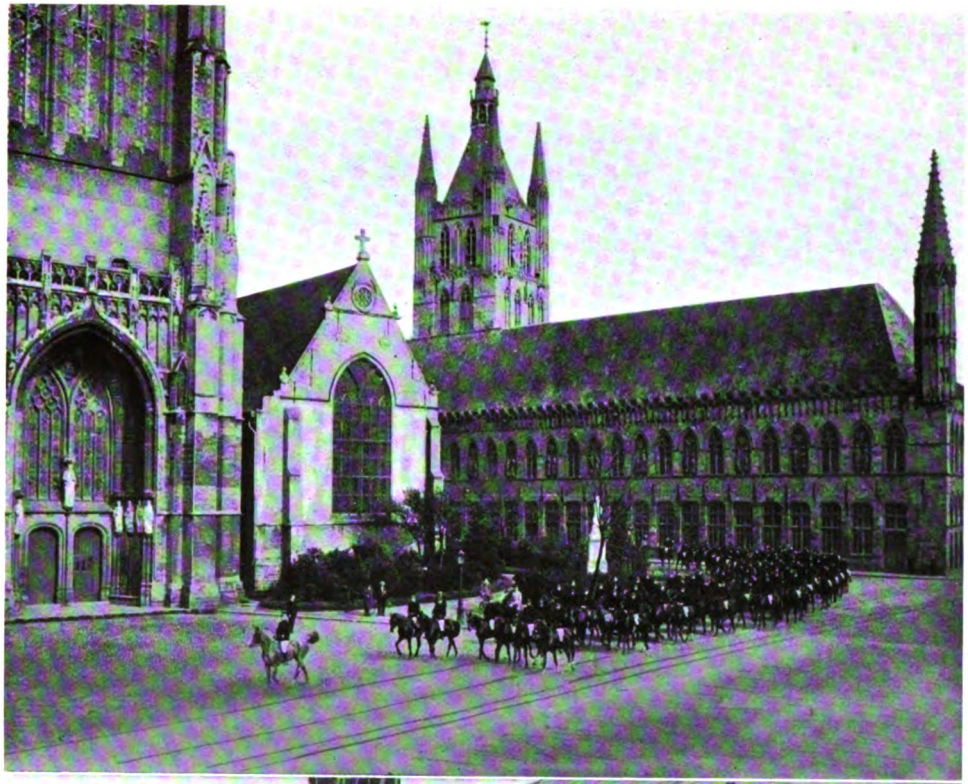

THE CLOTH HALL IN 1913.
BELGIAN CAVALRY SCHOOL, YPRES.

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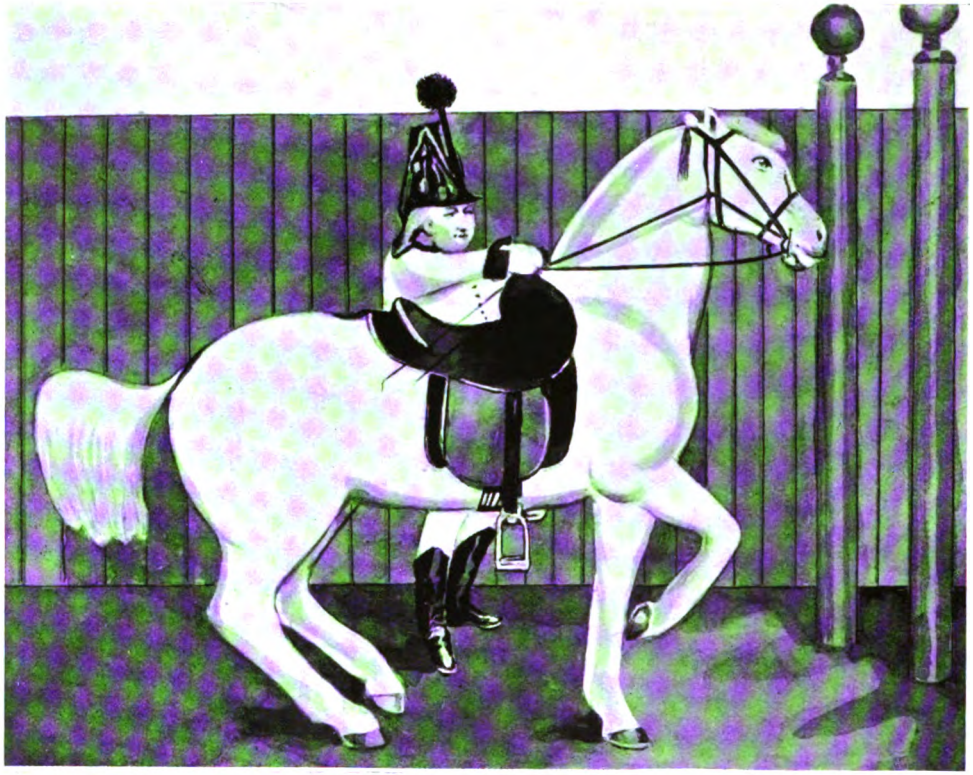

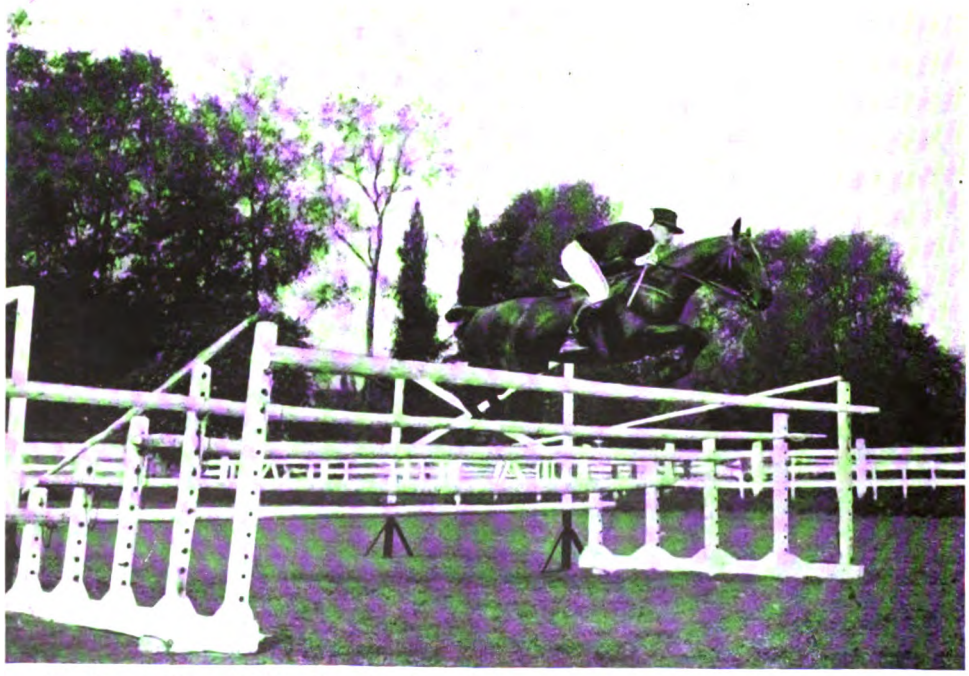

1. Captain Quist, R.H.A., Superintendent of the Riding Horse Department of His Majesty's Ordnance, 1803-1820.
2. In the Belgian Army. An obstacle 20 feet in length. The jumps are taken without

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ten senior corporals or cadets attending twice a week. For many years past all cadets have started riding during their second term, and the number of lessons per week varies from two to four.

The question of expanding the riding troop to deal with classes of officers, on the lines of the Cavalry School, had been much discussed prior to 1914, and a scheme to put this proposal into practice was nearing completion when the Great War broke out. The progress made by the Cavalry School had been carefully watched, and it was evident that the sound system of giving regimental officers a thorough grounding in the art of instructing in riding was bearing good fruit.

On mobilization in 1914, all officers, N.C.O.'s, men and horses fit for service were dispatched to join units of the Expeditionary Force; sixty horses and twenty civilian grooms under a riding master were provided to carry on the instruction of the cadets at the R.M.A., roughriders courses being abandoned. At a later period an attempt was made to revive the classes of roughriders to provide instructors for units and reserve formations training at home, but the demand was so great and the time available so short, that the efforts of the instructors were much hampered. Heavy casualties amongst the trained officers and men, and the great expansion of the Royal Artillery, showed that further steps must be taken to raise the standard of equitation and horse mastership, which had in many units fallen very low, with its consequent waste of horseflesh.

It is difficult to see how it could have been otherwise; there were not enough trained officers and men, Regular, Special Reserve, and Territorial Force, to leaven effectually the large mass of mounted artillery which had been formed.

The personnel joining after August, 1914, was magnificent, but the necessity for hurrying new units to a theatre of war was such that time was not available to teach them everything, and trench warfare led to a neglect of the cult of the horse.

The following figures showing the expansion of the R.H. and R.F.A. may be of interest. Regular, S.R., T.F., and temporary units are included, but not Dominion troops. August, 1914: 2,477 officers, 56,609 O.R.'s

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August, 1918: 18,567 officers, 319,659 O.R.'s, whilst horse-drawn batteries in the R.G.A. increased from 12 to 87.

To remedy this state of affairs, additional officers were sent to strengthen the Riding Troop during 1918, and immediately after the armistice it was decided to carry out the scheme which had already been discussed.

The limitations of Woolwich as a training centre had been obvious for years, as, although riding school accommodation was ample, there was no suitable ground for outside work. At the same time the instruction of the cadets at the R.M.A. had to be carried on, so it was decided to split the riding troop into a cadet branch, to remain at Woolwich, and an officers' and N.C.O.'s branch for which suitable accommodation was provided at Weedon.

A temporary establishment was approved, designed to deal with 36 officers and 72 N.C.O.'s. The first difficulty to overcome was the provision of instructors. Casualties had deprived the regiment of many of their best; some of these well qualified in the past had grown too old, whilst others were too senior for inclusion in the establishment. However, the best instructors available were collected, put through further training, and the officers and N.C.O.'s branch moved to Weedon in April, 1919, and started work on maneges, jumping lanes and organization.

A particularly good lot of horses were collected at the end of 1918 and the beginning of 1919 from Remount Depots and Reserve formations which were closing down; it was fortunate that this work was undertaken as soon as the scheme was provisionally approved, as it would have been difficult to obtain such a good nucleus at a later date.

A short course of four months' duration assembled in June, 1919, consisting of officers belonging to units due to go East in the following trooping season; it was considered that, although this could not produce very satisfactory results, it would afford some measure of help to the units concerned.

The long courses of nine months' duration started on July 1st, 1919, and to ensure the maximum output it was arranged that 18 officers and 36 N.C.O.'s should arrive every four-and-a-half months.

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This arrangement has not been found satisfactory, as the instructors and horses get no rest, and the arrangement of classes according to the state of training of the students is rendered difficult. It has consequently been settled to close the school from January 1st to March 31st, except for a limited number of refresher courses.

The number of students will also be somewhat reduced; maximum output was aimed at in the first instance, with a result that the classes were unwieldy. The object of the Riding Troop is to provide each brigade of Horse, Field and Heavy Artillery with at least one officer who has qualified as an instructor in equitation and each battery with a similarly qualified N.C.O.

As an aftermath of trench warfare it was found that some of the students on joining have ridden but little, whilst few are good horsemen, consequently much time has to be spent in teaching them to ride before they can pass to the stage of learning instructional work. However, all are keen and full of enthusiasm for their work and no doubt under peace conditions considerable improvement may be expected in this respect. When the supply of remounts becomes normal it is intended that each student should be provided with one trained horse and one remount, the latter being replaced at the end of each course; it is hoped that this system will be in operation in 1921.

On joining, all the students are put through a recruit's course from the very beginning, starting with dummy horse exercises; the time spent on this depends on the state of training of the students. As the training of recruits or young soldiers will be the main function of officers and N.C.O.'s on rejoining their units, every stage is carefully gone into and the pupils criticize the class. As the course progresses more time is devoted to training the students as instructors and they are called upon to demonstrate, explain and criticize the performance of definite lessons. The training of the remount is dealt with in every stage.

At present there is only one covered school; another is in course of erection, but the facilities for outdoor work are excellent. Three jumping lanes and a great variety of fences of every kind and size, natural and artificial, give the instructors ample opportunity for regulating the work of their classes. All the fences are stiff and endeavour is made

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to render them unbreakable, but neither man nor horse is invited to jump anything big until thoroughly proficient at low fences. There is a short steeplechase course and a hunter's course over which scurries are held at intervals; this sharpens the students up and excellent form is frequently shown.

Show-jumping is also studied; the facilities for training are good; some of the instructors and assistant instructors have been very successful both at Olympia and elsewhere; more can be learnt in this branch of horsemanship perhaps than in any other, by watching the performances of others; great interest is taken in it by all ranks, and no doubt many of the students, some of whom show great promise, will take up the sport seriously. Show-jumping as a sport can be practised in any part of the world and in stations where the facilities for other mounted sports are limited; jumpers are found amongst the most unpromising material, so it is probably the cheapest and most universal sport which a man can take up.

In addition to practical equitation and horsemastership, lectures are delivered not only by the instructors, but by others who are keen on the cult of the horse.

The latter gentlemen have been of the greatest assistance; their lectures arouse great interest and lead to much useful discussion amongst the students.

Considerable attention is paid to shoeing, and wooden legs to which hoofs can be attached are found most useful and no doubt save many horses from being pricked. Hoofs are obtained from the local knacker, often of unshod horses, so practice in preparing the foot can be given to the students to a greater extent than if they dealt with live horses. When done with the hoofs are returned to the knacker.

Fencing and physical training are included in the course. The lecture rooms are being gradually equipped, veterinary specimens collected, and an excellent model of a horse, which can be taken to pieces, obtained from Germany. Lantern lectures are found to be of great value; a considerable number of slides have been collected, showing many of the best British and foreign horsemen in the saddle. A cinema has been installed, and a few most interesting films have been shown, particularly

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those which can be moved in slow time, showing clearly the sequence of each movement of man and horse. It is hoped that this form of instruction can be expanded, but many difficulties have first of all to be overcome, upon which it is not necessary to touch here.

The hunting in the neighbourhood affords the best training and finishing school in the world. The country is hunted by the Pytchley, Grafton, Warwickshire, North Warwickshire, Bicester, and Mr. Fernie's, and the sport which is provided by these packs is so well known that it would be futile to embark on a further description. The greatest kindness has been extended to us by all connected with the above-mentioned packs. We had a large entry; many, owing to the stress of war, had never hunted a fox before they came to Weedon.

It is difficult to impart theoretical instruction in "Military Training, Part I.," as this best of sports has been described, but our efforts were much assisted by a well-known sportsman from the Pytchley country, who was good enough to give the young idea the benefit of a life-long experience, and it is certain no professor ever had a more appreciative audience.

It opened a new world to many who had never known the joys of a good hunt, and our thanks are due to those who kept the sport going for us, and are keeping it going after so many years of war.

All have been improved in every branch of horsemanship by the experience they have enjoyed, and one case of an officer who had never ridden out of a walk before he joined at Weedon stands out.

He was naturally diffident about his horsemanship, but he dropped in for a very fast hunt with the Grafton from Ashby gorse to ground at Fawsley; he was at the top of the hunt the whole way and he is now an enthusiast and a vastly improved soldier.

Another day with the Pytchley was full of incident and instruction. From Braunston we ran fast to ground near Catesby, crossing the Braunston brook twice. There was much swimming and much was learnt about getting horses out of brooks. One officer of the Horse Artillery was helping a fellow victim, a well known welter-weight who commanded a Cavalry Brigade in France, who vowed that the inundations round Cambrai would have held no terrors for him if they had been through

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this experience together before. (They were together before Cambrai in November, 1917.) We bolted our fox, who took us through Fawsley to Maidford Wood back to Badby, where many fresh foxes were on foot. There were many tired horses.

The students are allowed to hunt one working day in the week and on Saturdays when the school is closed.

At Woolwich the work of training the cadets is continued and a riding competition with Sandhurst was held at Aldershot last June, in which the " shop " was successful.

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ARMY POLO.

By LIEUT.-GENERAL M. F. RIMINGTON, C.B., C.V.O.

"Sport is a liberal form of war stripped of its compulsions and malignity: a rational art and the expression of civilized instinct."—*Santayana.*

WHILST the increasing expense of playing polo tends to make polo a game confined to very few amongst civilians, there appears to be a brighter view ahead for Army polo. From the Government point of view it is now quite evident that the State has a direct interest in horses and horse owners. A great war has convinced those whose duty it is to think about our resources for war that such is the case. Of all kinds of horses the good riding horse is the most difficult to obtain. English polo ponies and hunters proved themselves the riding horse *par excellence* of the campaign. These, the luxury horses, are maintained for purposes of sport. Thus we see that sport, such as polo and hunting, is a valuable asset to the State. Speaking broadly, the best polo pony is drawn from the ponies of 14.1 to 15 hands high, the best hunter from horses of 15.2 to 16.1 hands high.

There remains a residuum between 15 h.h. and 15.2 h.h. which are the most useful class of *all round* horse in the world. These are the well bred horses, in many cases thorough-bred, which have not, nor have their dams had, the advantage of good rich limestone soil. But size has its penalties. Soundness in horses is usually in inverse ratio to size. Recent polo legislation—now, we understand, derelict or withdrawn —debarred ponies over 15 h.h. from playing in matches. Nothing was to be licensed for play which was over 15 h.h. This rule would seem to have been unnecessary, as it is quite certain that no one will play a pony over 15 h.h. if he can possibly avoid it. If one can get enough

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pace and weight-carrying power in a 14.1 pony, that is the ideal pony for polo. Every inch bigger makes it harder to hit the ball with all round accuracy. It is probable that even the best and strongest players lose, on the average, ten yards in their long strokes for every inch by which their pony exceeds 14.3 h.h. It follows that ponies over 15 h.h. will only very exceptionally be ridden by the best players. This is unfortunate, as it limits the number of ponies or cobs which can serve, as a polo pony in summer and a hunter in the winter, those whose means limit the extent of their stable. It is those of limited means, and not the rich man and the purveyor of his polo ponies, whom it is desirable to consider in polo legislation nowadays.

Now for my reasons for thinking Army polo will flourish. To begin with, players in the Army can always practice at any time of year on their drill ground. One regiment at Aldershot began this year in February, and it certainly seemed like a direct result when their subalterns' team twice running, on a wet and sodden ground, easily disposed of their opponents in the subalterns' tournament at Ranelagh.

In London no one gets a chance of practice or play on a wet heavy ground or on a rainy day; the clubs very naturally do not permit it; and it is certainly a very different game from playing on a level fiery ground and demands different strokes and perhaps a change of tactics.

Another advantage to the man who begins his polo in the Army is that he can get well coached by an experienced player, first in the strokes which he should make and, almost equally important, avoid making, and secondly in the tactics of the game. The selfish player who would like to take the ball round and get a run, or try for a goal at a stiff angle, when he should hit a backhander, will have his fault plainly pointed out to him: possibly with the forcible language suited to the case.

Beginners will be warned against the fallacy of thinking a whippy stick lends itself to good polo.

Best of all, they can, before getting on to a polo pony and punishing its legs with their ill-directed strokes, go into a polo pit and learn to hit a ball correctly. There is nothing like it for learning polo; but they must beware of damaging a wrist by overdoing this practice; it is very easy to do so, when you recollect that in ten minutes you will probably

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hit the ball more often than in the seven or eight chukkers of polo of an afternoon's play.

The assistance towards training polo ponies afforded by a riding school and its staff is enormous, and the soundness of the principles of equitation, inculcated in Army riding schools at the present date, is such as to promise us a good supply of well-balanced ponies and horses in the Army. Good balance, mind you, means a long life to a horse's legs and safety to his rider.

It is wonderful what an effect is produced by absolutely sound principles of breaking and training on three and four year old ponies. It is difficult to arrange for the former to be trained and played in cantering games, but if it could be done the results would astonish us. I have always thought that this early breaking was the secret of cow ponies playing polo so easily, and this view received striking corroboration when I learnt that Lord Stalbridge's cream pony, a wonderful player,* had been played as a two year old. It's real age was only discovered when they were obliged to cast it, so as to enable them to clip it, a year later. A very astute and successful breeder of polo ponies has all his ponies trained at three years old sufficiently well for him to get on to them and judge, by their feel and the balance they display, whether they are worth retaining in his stud. Those who have facilities for doing this will save themselves the trouble and risk of trying to train five, six and seven year olds; every added year seems to make it harder to get good results.

In a regiment it is very usual to find either an established polo pony club, which will hire out, or assist in buying, ponies for beginners. This is obviously a great advantage to anyone without experience of how and where to buy beginners' ponies. These should be steady and easily played ponies, and neither fast nor flyaway. Polo is one of the most discouraging games to a beginner, and doubly so if he has not ponies which will look after him at first.

A great advantage in a regimental club is that ponies can be allotted and reallotted till they find someone whom they suit, or who suits them. A man with good hands and even temper can often ride an excitable

* This pony may be seen doing great things in next year's international matches, as it has been placed at the Committee's disposal by its owner.

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pony which would pull like a fiend when played by a heavy handed rider. These heavy handed men do not mind a pony which would be hated by a man with light hands.

In regimental polo clubs it is most necessary to organize a means of running out the polo ponies in the six off months from September to March. Prices for grazing vary from 5s. to 10s. a week, and this respite from work often seems to improve a pony's play. Before turning them out, have their feet lowered so that frog pressure is established and also have the edges of the hoofs well rounded off so as to prevent the horn from splitting and breaking, as will happen if the shoes are simply pulled off and the pony turned out straight away. Let the grazing be where you can visit them frequently. Before turning out, the mouth should be examined and the tooth rasp brought into play if there are any sharp points on the molars. We may add that anti-fly dressing, which Messrs. Day and Hewitt supply in a good form, should be rubbed all over a pony, if it is turned out before the fly season is over.

I do not think it is advisable for a beginner to attempt to train a pony for polo till he himself has a year or two's experience of the game; but any fairly sophisticated player should always be on the look-out for the well balanced pony with a good mouth, which is likely to make a polo pony and for which a reasonable price is asked. If this pony can be ridden in the late summer and autumn and get a few cantering games before being turned out, it may be quite possible to play him the following year, provided he is brought in from grass early in the year and carefully trained.

The difference in price between trained polo ponies bought at auction in the autumn and those rushed for in the spring is not represented by three or four times the cost of turning them out for six months. The one disadvantage of barracks is the difficulty in finding sufficient stable room in them, and the result is that polo ponies overlap hunters, where both are kept, in a very awkward way.

If you make friends with a sporting farmer in the neighbourhood of barracks a good deal of this difficulty can be got over by roughing up the superfluous ponies or horses in boxes on hay till they can be turned out. It must be remembered that to hunt and play polo as well is, in

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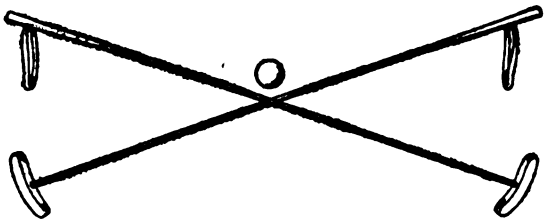
these days, a very difficult matter for most people owing to the high price of forage and all the other expenses incidental to horse-keeping.

On the other hand the authorities view polo very differently from what they did fifteen years ago, when a conclave of brigadiers was convened at the War Office to consider whether polo should be allowed to go on at all. Fortunately the conveners had it explained to them that polo could be played at small expense, if ponies were bought in the autumn at an average of £25, kept through the six winter months at an average of 5s. a week, and sold in the three summer months at £65. A lucid explanation to this effect, supported by a detail from Messrs. Tattersall of their sales, convinced them and polo was allowed to go on.

It was well that this was so, because if hunting is "the image of war," polo is the simulacrum of the mêlée. It trains one's mind to think quickly, to work in sympathy with and unselfishly for one's side in offence and defence, to a higher degree than any other known game. It requires enough nerve and physical fitness to render those who wish to play well careful in their mode of life after they reach 30 years, just at the time when the slothful habit may attack them. If they keep fit they may play till they are 45 or 50 years of age. It is a great attribute to a game that it does not end for most men at 30 years of age.

The hunting and polo playing officer of to-day is a far better all-round soldier than his predecessor of fifty years ago, for the simple reason that he has polo, the best game in the world, to keep him going through the summer months. Perhaps, too, there is less attraction in racing, and in betting on the efforts of hired manikins, when you can yourself ride twenty or more finishes in an hour's polo.



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THE BELGIAN CAVALRY IN THE COMBAT OF HAELEN, AUGUST 12th, 1914.

On August 12th the German cavalry tried to force the passage of the Gette River, near Haelen, which lies 35 miles east of Brussels and south-east of Antwerp. Six regiments of the 4th and 2nd Cavalry Divisions, supported by the 7th and 9th Jaeger Battalions and by three batteries, took the offensive.

To oppose this force of 4,000 sabres, 2,000 infantry and 18 guns, the Belgian Cavalry Division had only 2,400 sabres, 450 cyclists and 12 guns.

Towards 8 o'clock patrols came to reconnoitre the outskirts of Haelen, which was defended by the 3rd Cyclist Company; they were followed by a hundred troopers, who endeavored to remove the barricades. On being fired upon the assailants fled, leaving dead, wounded and prisoners behind them.

Half-an-hour later the enemy developed a more determined attack with dismounted cavalry as well as infantry. For nearly two hours the 3rd Cyclist Company maintained their ground, being supported about 9.30 by the 1st Company, to the south of the village. But about 10 o'clock the German artillery came into action, and its heavy shelling made the suburbs of Haelen untenable; the enemy, moreover, was being constantly reinforced. The cyclists blew up the bridge and withdrew to the railway line which they held till midday. At this moment, supporting the 1st and 3rd Companies of cyclists, four squadrons were deployed dismounted (two from the 4th and 5th Lancers respectively), near the Yser Beek farm; to their left was the 1st Horse Artillery battery, with two squadrons of 5th Lancers; the two remaining batteries echeloned backwards to the north-west of Hontsem. The flanks were protected at Zelck

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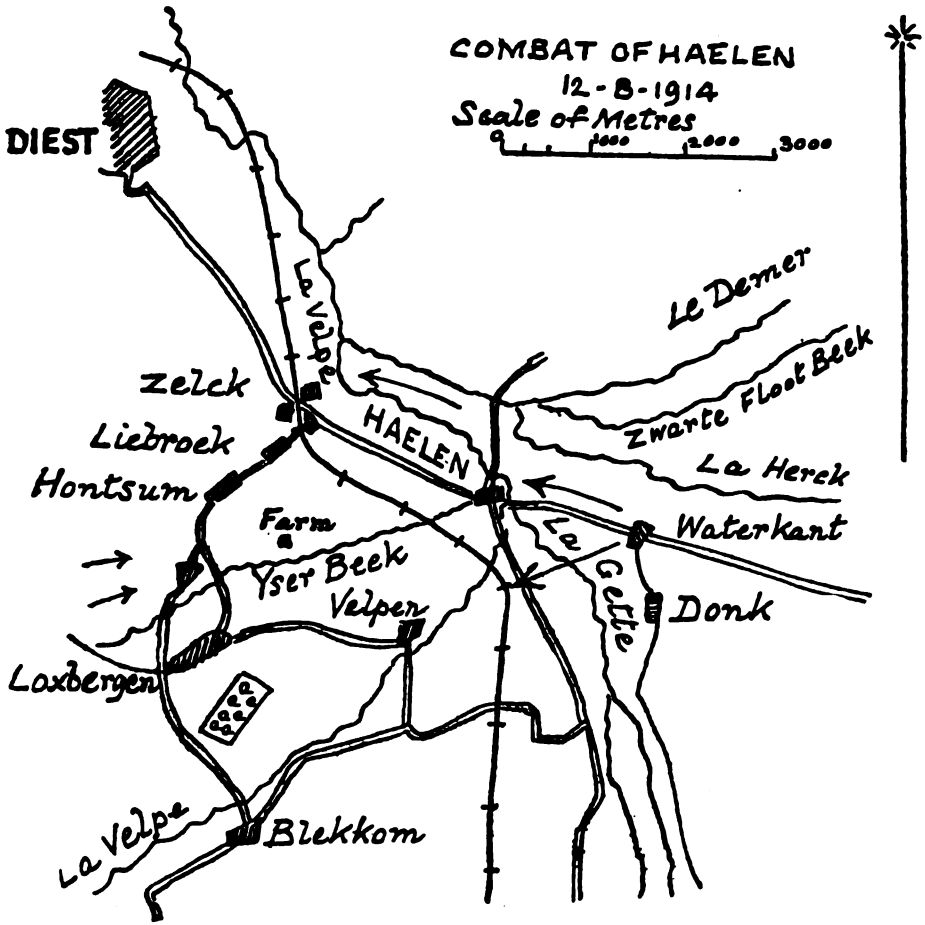
by a squadron of the 4th Lancers and two platoons of cyclists ; at Velpen, by two squadrons of the 2nd Guides ; three squadrons of the 1st Guides were in reserve near the woods of Blekkom.

At noon the Germans attacked Zelck and Haelen station simultaneously. Their attempt was a failure ; dispersed at Zelck, at Haelen



they came under the fire of the Belgian artillery and four machine guns. They persisted, however, and bringing up fresh troops, threatened to envelop the cyclists, who withdrew gradually towards Yser Beek farm.

At about 13 hours the enemy made a combined mounted and dismounted attack on the cyclists. Dense lines of riflemen issued from

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Haelen and began the advance; the cyclists, who had been fighting for nearly five hours, executed a withdrawal. At the same moment a squadron of enemy dragoons appeared and charged them, but their fire stopped the charge; twice more the attempt was repeated and each time with the same result.*

The Germans then threw their reserves into the scales; they deployed on a front of nearly a mile, from Velpen to Liebroek. Their counter-batteries heavily engaged the 1st Horse Artillery battery; numerous machine guns supported the infantry advance. This attack succeeded in taking the Yser Beek farm, and they thought they had succeeded, when suddenly the 4th Mixed Brigade, brought up by a forced march, entered the battle. It comprised four weak battalions, which had left Haekendover at 9.35, and which had just covered 15 miles in torrid heat. Of the 17 companies present in action, ten had two officers on their strength and the others only one. The engagement was raging when the brigade arrived at Loxbergen. Six companies marched immediately by Blekkom and Velpen on Haelen, one battalion covering the movement on the right flank. The 1st Battalion of the 24th was directed on the Yser Beek farm; the last battalion was held in reserve.

The attack was led with dash in spite of the fatigue of the men, and they soon reached the Yser Beek farm and Velpen, round which a desperate combat was proceeding.

The Belgians, carried away by their ardour, penetrated into Velpen, where they fell into ambuscades of machine guns, which were hidden in the houses and had remained silent until they were passed by the Belgians, when they fired into their backs and checked their onset. In order to silence these machine guns it was necessary to set fire to the houses which sheltered them.

Many well concealed guns supported the Germans, who launched repeated counter offensives. On the other hand, the three batteries of the 4th Mixed Brigade, which came into action at about 15.30, swept the enemy with terrible precision, and the general advance of the Belgian cavalry caused the enemy to waver.

*See CAVALRY JOURNAL for April, 1920, page 125, where reference is made to this episode in "Tanks and Cavalry Tactics."

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At length the Germans yielded and then retreated precipitately on Haelen. Mounted pursuit was impossible, owing to the exhaustion of the men, the natural obstacles of the ground, and the hellish direct fire of the machine guns, but the Belgian cavalry closely pressed their advantage, advancing in the dismounted combat. At 18 hours the enemy fled along the whole line, abandoning the whole of his advanced batteries, a standard, his dead and his wounded. The next day 3,000 corpses and horses' carcases were buried. As to the Belgians, both the captains of the cyclist companies were killed; the 4th Lancers lost 4 officers; the 4th Mixed Brigade lost 12 out of 31 battalion officers, and there were 472 other casualties.

The Belgian cavalry had proved that in this close country, with inadequate cover from fire in the defensive fire battle, it was yet a match for immensely superior numbers of the invader's best troops.

The Belgian mounted patrols had previously gained the moral ascendancy over the German Lancers, and from this early combat onwards throughout all the crises and vicissitudes of the long War, the cavalry of Belgium, whether counter-attacking dismounted, in the trench warfare on the Yser or once more in the saddle sweeping the invaders finally from their native land, proved themselves capable of defeating superior numbers of the foe.

But the victory not only gave confidence to the Belgian cavalry, it gave time to the armies of the Allies and influenced the whole progress of the dreadful and impassioned struggle for freedom.

King Albert rewarded the bravery of these troops by authorising them to inscribe "Haelen" on their colours, standards, emblems and guns.

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OPERATIONS OF 1st CAVALRY BRIGADE, AFGHANISTAN, MAY 7th TO AUGUST 27th, 1919.

By MAJOR J. R. V. SHERSTON, D.S.O., M.C., *Indian Army.*

ON February 20th, 1919, the Amir of Afghanistan (Habibullah), who had been the firm friend and ally of the British for many years, was murdered.

His brother Nasrullah proclaimed himself Amir, but renounced his claim a few days later in favour of Amanullah, the late Amir's third son.

During the disturbances in the Punjab in April, 1919, there were no actual riots in the North West Frontier Province, but there were frequent demonstrations against the Rowlatt Bill in Peshawar city and everyone was busy preparing to deal with similar trouble in his own district. It was for this reason that the murder of the Amir did not attract as much attention as it might otherwise have done, and though rumours were heard at the beginning of May of the possibility of trouble with Afghanistan, they were only considered to be the natural result of the change of Amirs and were not expected to come to anything.

At this time the 1st Cavalry Brigade was stationed at Risalpur, a small cantonment about four miles north of Nowshera and 30 miles east of Peshawar and consisted of :—

" M " Battery, Royal Horse Artillery.
" A " Ammunition Column, Royal Horse Artillery.
1st King's Dragoon Guards (K.D.G.).
1st Lancers.
33rd Cavalry.
15th Machine Gun Squadron.
1st Field Troop, Sappers and Miners.
1st Cavalry Brigade Signal Troop.
No. 9 Indian Mobile Veterinary Section.
No. 8 Combined Cavalry Field Ambulance.

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Transport

43rd Cavalry Brigade Supply Troop.
45th Mule Corps (Carts).
Five Troops 29th (Pack) Mule Corps.

Demobilization of British and Indian troops had been proceeding for some time and a large percentage of Indian ranks were on leave at their homes when, at 01.15 on May 5th, the 1st Cavalry Brigade received a telegram suspending all demobilization and recalling Indian ranks from leave and furlough.

This was followed at 11.15 on May 6th by the order for units to commence general mobilization and at 12.55 on the same date by the order for the 1st Cavalry Brigade to be ready to move to the neighbourhood of Shabkadr on May 7th.

At 20.00 on May 6th (less than nine hours after receiving the order to mobilize) one regiment (the 1st Lancers) marched from Risalpur to Shahgai (nine miles north-west of Peshawar), and at 18.40 on May 7th (31 hours after receiving the orders to mobilize and before any of the men on furlough could rejoin) the remainder of the 1st Cavalry Brigade marched out of Risalpur for Peshawar.

Strength returns for the actual date of marching are not available, but a return of some of the units of the brigade for May 27th—three weeks later—gives the following, which shows how units were reduced by demobilization and furlough, for up to this date there had only been about 60 casualties in the brigade.

	War Est. All ranks.	Actual Strength on 27.5.19.	Deficient.
1st K.D.G.'s	473	324	149
1st Lancers	510	247	263
33rd Cavalry	510	273	237
"M" Battery, R.H.A.	198	179	19
15th Machine Gun Squadron	170	113	57
1st F.T., Sappers and Miners	88	65	23

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The brigade (less 1st Lancers at Safed Sang, watching the Mullagori road) arrived in Peshawar at 06.00 hours on May 8th and camped just north of the Jail, except the K.D.G.'s, who were on the Polo Ground and temporarily detached under the orders of the G.O.C., Peshawar Area (Major-General Climo, C.B., D.S.O.).

It had been discovered that the Afghan postmaster in Peshawar city was organizing a rising in conjunction with the invasion of India by the Afghans, assisted by the riots and disorders which were taking place in the Punjab. Several leaders of sedition were known to be in Peshawar city, and the Afghan postmaster had collected about 4,000 armed Afghans, who were to break out of the city on the night May 8th-9th and run amok through the cantonments, killing and burning, and so assisting the advance of the Afghan Army, *via* Landi Kotal.

General Climo ordered the K.D.G.'s to draw a cordon round the city and close all the gates and this was very efficiently carried out at 14.00 on 8th inst. All sixteen gates of the Peshawar city were seized simultaneously and held by posts with Hotchkiss and machine guns, while armoured cars and mounted patrols watched the length of wall between the gates. Only one enterprising agitator attempted to leave by climbing over the city wall and he was soon caught by one of the K.D.G.'s with a lance. As soon as the cavalry posts had been established, infantry were moved up to relieve them, but the K.D.G.'s continued to patrol the city walls until May 11th.

The Afghan postmaster and his staff and some of the leading agitators were surrendered the same evening and all the remainder the next day.

The situation at this time was as follows :—On May 2nd the Afghans occupied the water springs of Bagh, just on the British side of the boundary near Landi Khana. Urgent warning was sent at once by the Viceroy to Amanullah, so worded as to give the latter every chance to back out of the enterprise he was evidently contemplating, but to no purpose, for on May 5th three regiments of the Afghan Army, with two guns, arrived at Bagh and reports were received of the dispatch of Afghan troops to various points on the border. There was only one course open to the Government of India, and mobilization orders were therefore issued and the concentration of troops necessary to deal with the situation commenced

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forthwith, the orders for the 1st Cavalry Brigade being received, as has been stated above, on May 6th.

On the morning of May 9th General Crocker, who had been sent up with the 1st Infantry Brigade of the 1st (Peshawar) Division, to reinforce the Khyber Rifles at Landi Kotal, attacked the Afghans who had taken up a position near Landi Kotal. The Afghan force was estimated at 4,000 infantry and eight (mountain) guns, reinforced by a *lashkar* of about 3,000 tribesmen. The main Afghan strength was in position along the spurs commanding Bagh village, with detachments holding the Spinatsuka and Tortappar ridges. The possession of Bagh was most important, as it is on the springs there that Landi Kotal depends for the majority of its water supply.

General Crocker's first attack on May 9th secured the Tanji springs and water works, but encountered stubborn resistance. On May 11th he again attacked, occupied the Khargali heights commanding Bagh, and captured six guns.

On the same date aeroplanes carried out a bombing raid on Loe Dakka, about 14 miles from Landi Kotal, on the road to Jalalabad.

The success of these operations undoubtedly influenced the tribes, none of whom, except the Mahsuds and Waziris, responded in any numbers to Amanullah's continual invitation to join in the *Jehad* (Holy War) against us.

The 1st Cavalry Brigade remained in Peshawar during May 9th and 10th and on May 11th it came under the orders of Brigadier-General Baldwin, D.S.O. (G.O.C. 10th Cavalry Brigade), who was given command of the cavalry force composed of the 1st Cavalry Brigade under Brigadier-General Davies, and 30th Lancers and part of the 24th Machine Gun Squadron (both units of the 10th Cavalry Brigade, which had not had time to concentrate) under Lieut.-Colonel Gledstanes, 30th Lancers.

At 16.00 on May 11th the cavalry force marched to Jamrud, where it camped on the stony plain east of the fort, on either side of the main road.

The 1st Lancers rejoined the 1st Cavalry Brigade on the same evening.

The cavalry force remained at Jamrud on May 12th and received orders to march to Loe Dakka on May 13th. The stay at Jamrud was

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uneventful except for a very violent dust storm on the evening of May 12th, which only lasted about five minutes, but blew down the few tents we had put up, including the 1st Cavalry Brigade office tent and the wax on which the orders for the 13th had just been typed but no copies taken off, and scattered Brigade Standing Orders and most of the books and stationery all over the camp. This was only one of the difficulties we had to contend with. The heat in the Peshawar valley or in Afghanistan at this time of the year is intense. At Dakka even the Indian infantry could not stand much marching in the sun. Mosquitoes and sand flies add to one's discomfort and in spite of one's many wants transport has to be kept down to a minimum and one's kit can include nothing but bare necessities.

Cavalry force marched from Jamrud at 04.30 on May 13th.

The orders which had been received from "Norfront" (Headquarters, North West Frontier Force—Commander, General Sir Arthur Barrett, G.C.B., K.C.S.I., etc.) were that cavalry force was to arrive at Landi Khana (22 miles) not later than 10.30 hours on 13th inst., and there get into touch with the 1st Division before moving on to occupy Loe Dakka (34 miles from Jamrud), the road to which place was to be picketed by infantry of 1st Division.

On arrival at Loe Dakka the cavalry were to seize all boats and other means of crossing the Kabul River.

The march was uneventful except that the road was found to be blocked by large boulders about three-quarters of a mile east of Ali Musjid. This delayed the column half an hour.

There was a great delay at Landi Khana, where the majority of the horses had to be watered—one regiment and one squadron had watered at two ponds about five miles west of Ali Musjid. The water troughs at Landi Khana were very narrow, and emptied very quickly, but there was only a slow flow of water to refill by.

Notwithstanding these delays the head of cavalry force arrived at Landi Khana at 11.00.

At 11.30, 1st Lancers with three armoured cars and one section 15th Machine Gun Squadron were sent on to occupy Loe Dakka.

They reached there about 12.40 and found the village empty. The

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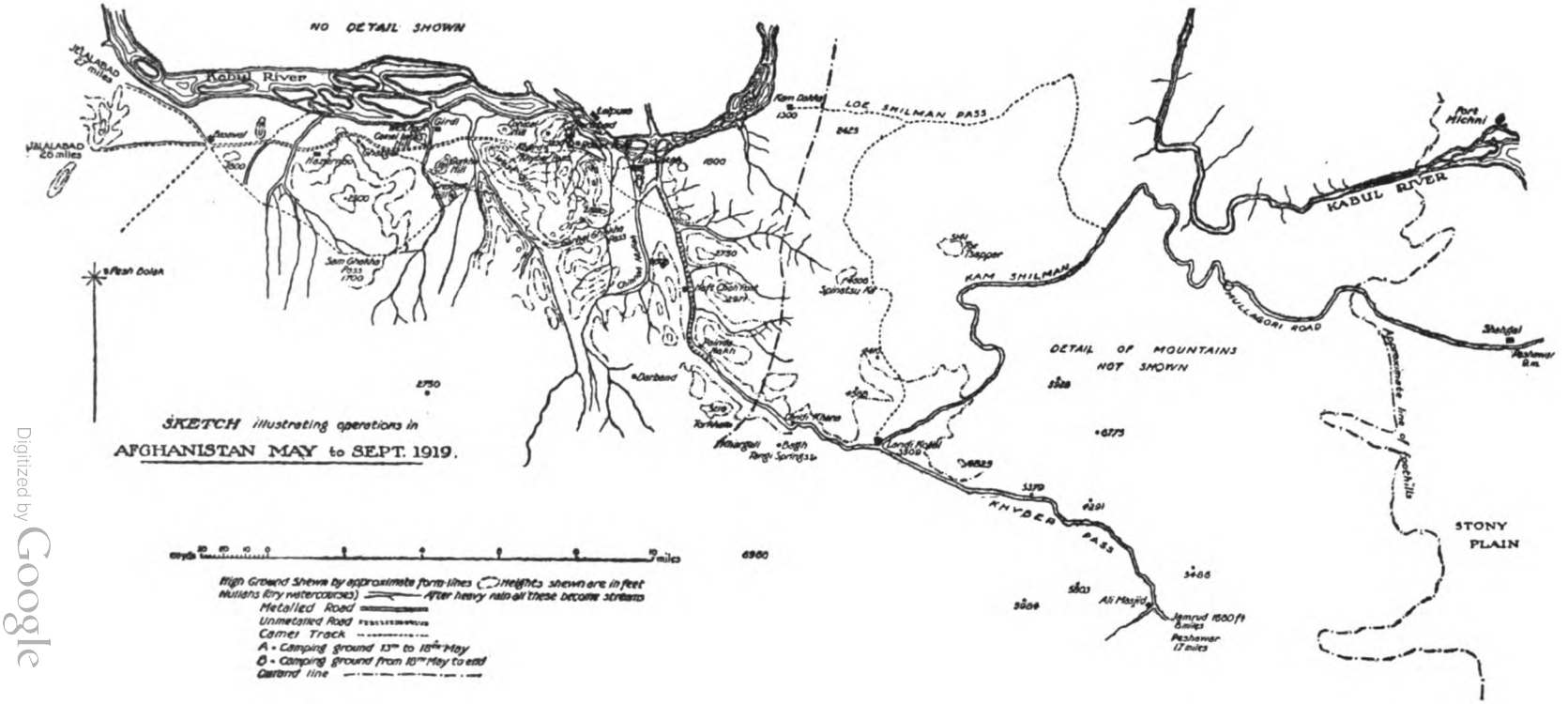
NO DETAIL SHOWN
JALALABAD 20 miles
Kabul River
Peiwar
Girdi
Lataband
Ram Dakka
LOE SHILMAN PASS
Fort Michni
KABUL RIVER
Peak Bolan
Sam Ghekka Pass 1700
Shkt Tapper
KAM SHILMAN
Spinatsu Kr
DETAIL OF MOUNTAINS NOT SHOWN
SHULLAGORI ROAD
Shabgai
Peshawar 8 m.
Darband
Landi Khana
Landi Kotal
KHYBER PASS
Approximate line of foothills
STONY PLAIN
Ali Masjid
Jamrud 1600 ft
Peshawar 17 miles
SKETCH illustrating operations in
AFGHANISTAN MAY to SEPT. 1919.
High Ground Shewn by approximate form-lines (Heights shewn are in feet
Nullahs (dry watercourses) After heavy rain all these become streams
Metalled Road
Unmetalled Road
Camel Track
A = Camping ground 13th to 18th May
B = Camping ground from 18th May to end
Cantonment line

remainder of cavalry force reached Loe Dakka at 14.00. No opposition was encountered and there was no sniping.

A perimeter camp was organized on the stony ground just south of Loe Dakka (to be referred to as Dakka in future). Two days rations for the cavalry force and a supply of S.A.A., Very lights, etc., were sent by motor lorries and dumped inside the perimeter.

It was interesting to see the Afghan camps at Dakka. The air raid of May 11th was the first experience the Afghans had of being bombed. A lucky bomb took off the leg of the Afghan commander, whose troops abandoned the camp without delay. All tents had been left standing, with kit, equipment and papers lying just as they were when the air raid was carried out on May 11th. The local tribesmen had had the time of their lives, looting rifles and ammunition, but we found several interesting documents, from an intelligence point of view, including a long letter from the Afghan postmaster in Peshawar to the Commander of the Afghan troops at Dakka, confirming in every detail the plot which was prevented from materializing when the K.D.G.'s rounded up Peshawar city.

Dakka had evidently been used by the Afghans as a kind of advanced base. The village consisted of the ordinary flat-topped mud huts, and in the centre of the village was a large enclosure, about 20 yards by 70 yards, round which were stores containing all kinds of military equipment and the remains of ammunition, the bulk of which had been looted by the neighbouring tribesmen in the interval between the air raid of May 11th and our entry on May 13th.

In addition to this material there were the Afghan tents and a good deal of forage about near the village, and so steps were taken at once to prevent looting. An officer was detailed for salvage work and another for foraging, and dumps were made in the perimeter camp. On May 14th and 15th the cavalry force sent out mounted patrols as follows :—

(1) To Sherabad Cantonment.
(2) To the south-west, along the Garhai Ghakhe track.
(3) Along the Landi Kotal road.
(4) To the foot-hills, east of Dakka.

These patrols were out from daylight to dusk but saw no enemy.

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An officer of the Royal Air Force had been attached to the 1st Cavalry Brigade Headquarters for the march to Dakka and, as a result of his reconnaissance, a temporary landing ground was selected on May 14th near the camp.

At 12.30 on May 14th two Indian infantry battalions of the 1st Infantry Brigade arrived and came under the orders of G.O.C. Cavalry Force, and at 15.45 on the same day an Afghan colonel arrived in a motor car with a flag of truce and a letter addressed to the Political Agent, Khyber. The letter was sent through by motor cycle D.R., and at 13.00 on May 15th another Afghan party arrived in our camp with letters for the Viceroy, which were sent on.

On May 14th and 15th a reconnaissance of the Kabul River between Dakka and Lalpura reported as follows :—

(*a*) The boat-bridge at Lalpura was dismantled years ago.

(*b*) There is one boat used as a ferry between Lalpura and Sherabad, where the river is only 100 yards wide.

(*c*) There are no fords at this time of the year, and the current is too swift to swim horses.

(*d*) The river can be bridged easiest across its branches from island to island near Dakka.

(*e*) There is plenty of wood for bridging in Dakka village.

On the afternoon of May 15th one squadron K.D.G.'s and one section of " M " Battery, R.H.A., were sent out to reconnoitre towards Sherabad cantonment. The reconnaissance was fired on by snipers from Lalpura, on the north bank of the Kabul River. The snipers were shelled and withdrew into Lalpura and the reconnaissance returned to camp.

On the evening of May 15th orders were received for Brigadier-General Crocker to assume command of the forces at Dakka.

At 05.30 on May 16th a mixed force, composed as follows, and under the command of Colonel C. N. MacMullen, C.M.G., D.S.O., 15th Sikhs, marched out of camp to reconnoitre towards Basawal :—

1 Section " M " Battery, R.H.A.
2 Squadrons King's Dragoon Guards.
1 Section 15th Machine Gun Squadron.
2 Companies 15th Sikhs.

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By 08.40 this force had advanced, without meeting much opposition, into the plain just west of the Khurd Khyber Pass.

At 09.08 " D " Squadron, K.D.G.'s was ordered to advance on Girdi ; one troop was directed round the north, one troop to the south, and one straight towards the village. Their advance was covered by the fire of the sections of " M " Battery, R.H.A., and 15th Machine Gun Squadron.

By 09.50 Girdi had been secured. One company, 15th Sikhs advanced through the cavalry to attack the enemy on West Rock and Camel Back Hill.

The enemy's resistance was now stiffening ; he brought artillery and machine guns into action, and considerable numbers could be seen working round our left.

Consequently, at 10.45, Colonel MacMullen started to withdraw to camp.

Immediately he did so, the enemy came on in large numbers, and with great rapidity and boldness. We suffered casualties during each bound of our withdrawal, and the task of getting back our wounded increased the difficulties, but all were brought in.

One company 15th Sikhs had been left picketing the Khurd Khyber Pass, and as units withdrew under cover of the most advanced of these pickets they were reformed and the retirement co-ordinated.

The enemy continued to press forward with the greatest vigour and at 12.25 his mounted men were not more than 400 yards from Colonel MacMullen near Robat Fort.

To gain time " B " Squadron K.D.G.'s was ordered to charge, which they did with great gallantry.

Some of the enemy retired but others stood their ground, and the K.D.G.'s got into them and did considerable execution.

By 13.00 the whole force was back in camp at Dakka.

The enemy occupied the high ground commanding the camp and about 2,300 yards from it and made things quite uncomfortable with rifle and a certain amount of gun fire.

The 35th Sikhs were moved out to the west of the camp to prevent the enemy collecting in the nullahs between the camp and the high ground referred to above.

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The 1st/9th Gurkha Rifles (less two companies), supported by one company 15th Sikhs, were moved out south-west, to cover our left flank.

"M" Battery R.H.A., and No. 8 Mountain Battery R.G.A., came into action near the perimeter.

Two squadrons 30th Lancers were sent out to the foot-hills to the south-west of the camp and one troop to Kam Dakka.

At 18.00, owing to enemy mountain gun fire on our camp, all horses and mules were moved into the nullahs just east of the camp and defences were reorganized for the night.

At dusk the enemy fire slackened and shortly afterwards an attempt was made to rush the centre of the north-west face of the camp, but this was easily stopped. The rest of the night was quiet.

Brigadier-General Crocker decided to attack the high ground to the west of the camp at 04.30 on May 17th.

The attack was commenced by the 35th Sikhs (supported by two companies 1st/9th Gurkhas) and the 15th Sikhs.

One squadron was sent out in observation on each flank of the attack. The squadron on the right was moved out towards Robat Fort, but was driven back by gun and rifle fire. The squadron on the left went out to the south-west, and remained out protecting our left flank.

Directly the enemy opened fire on our attacking troops our guns and machine guns opened and drove the enemy from the advanced positions they had taken up at the foot of the hills.

By 06.20 the 35th Sikhs had reached within a short distance of their objective, but as they had lost their senior officers, the 1st/9th Gurkhas passed through them. They too were unable to reach the summit.

By 08.00 the 15th Sikhs had reached a good position a short distance from their objective. They were under too heavy fire to advance farther without support.

Meanwhile the enemy's guns were firing on Dakka and our camp and the nullahs to which the animals had been moved, but did little damage.

At 12.20 Major-General Skeen arrived with two battalions 3rd Infantry Brigade and a battery each of 4·5 howitzers and mountain howitzers.

General Skeen took command and issued orders for the 1st Somersets to advance at 14.00 and resume the attack, covered by the howitzers

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machine guns and mountain guns. At 13.35 one squadron 33rd Cavalry was sent out to join the squadron 30th Lancers south-west of the camp, and shortly afterwards a report was received from 30th Lancers (timed 13.35) that the enemy forces seemed to be disappearing.

At 13.50 the 15th Sikhs found that the enemy's fire had slackened and advanced and gained their objective. It was now apparent that the enemy were retiring off the ridge. The Somersets came under slight fire from the north end of the ridge, but found the summit vacated and occupied it at 15.55.

The total casualties during the actions of May 16th and 17th were :—

	Killed.		Wounded.	
	Infantry.	Cavalry.	Infantry.	Cavalry.
British Officers	5	1	8	2
British other ranks ..	1	6	8	39
Total British	6	7	16	41
Indian Officers	3	—	4	1
Indian other ranks ..	21	2	169	10
Total Indian	24	2	173	11
Horses (Riding)	—	48	—	26
Horses (Draught)	—	10	—	—

	Killed.	Wounded.
Total—British ..	13	57
Indian ..	26	184
Horses ..	58	26

The Afghan forces engaged in the action described above were estimated at not less than 3,000 in action on the ridge overlooking the camp, with seven Krupp mountain guns.

Their casualties were 200 killed and 200 to 500 wounded, and we found five guns abandoned on the positions which they had occupied. Once they had decided not to contest their position any longer the Afghans

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faded away remarkably quickly and most likely many of those who were fighting against us on May 17th were selling us supplies on the 18th.

On the evening of May 17th Major-General Skeen issued orders for the reorganization of the force at Dakka into a cavalry striking force, consisting of the 1st Cavalry Brigade less 1st Lancers and one section "M" Battery R.H.A., an infantry striking force, a force for the defence of the road back to Landi Khana, and another for convoy work and the supply of the force at Dakka.

On May 18th the whole force moved camp to the neighbourhood of Robat Fort, where a site had been selected protected from north-west to south-east by a semicircle of hills, held by pickets and on the north and north-east by the Kabul River.

The British force remained at Dakka until the end of August, but the action of May 16th and 17th was the last fought against the Afghans on this part of the front.

The rest of the campaign was chiefly a struggle against the discomforts and difficulties of the climate and the country. In order to provide fodder for the horses and to supplement supplies sent up from the base, it was necessary to send out foraging forces daily into enemy country.

These forces generally consisted of cavalry, infantry and artillery. At first it was necessary to cut and collect the crops which had been left standing up to about four miles from the camp. When these had been used, the foraging forces went farther afield to Hazarnao, where *bhusa* and other fodder had been stacked by the inhabitants, who sold it to us through the Hindus of the village. Most of the picketing of the hills commanding the route taken by each foraging force was done by the infantry, but on June 1st, after all near supplies had been used up, the 1st Cavalry Brigade went out with a number of army transport carts to Hazarnao and it was found quite possible to do all the picketing which was required with dismounted cavalry. The cavalrymen were not very fast hill climbers and their equipment did not make things easy for them, but by selecting important points, not necessarily at the top of the hills commanding our advance, and by making use of their horses as much as possible when moving to and from their positions, the picketing was carried out very satisfactorily.

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Except on June 1st, a normal composition for one of these foraging forces was :—

1 Cavalry Regiment,
1 Section R.H.A. or 4·5 Howitzer Battery,
1 Section Machine Gun Squadron,
1 Battalion Infantry,
200 A.T. Carts,
1 Section Cavalry Field Ambulance,

and the farthest they went towards Jalalabad was about eight miles west of camp to a village called Hazarnao.

In addition to these foraging forces, daily working parties were supplied for shaling the roads through the camp to reduce the dust, for pumping the drinking water and for any other work that might be required in the camp.

Though regiments were all below establishment and had plenty to do watering and grooming their horses and looking after saddlery, which needed a lot of attention in the dry heat, it was found possible to provide working parties up to about 100 men per regiment not out foraging for about four hours a day.

Our camp at Dakka was pitched on ground which, when we arrived there, looked quite nice and green, but on the higher ground about Robat Fort, where the Cavalry Brigade was camped, the green was not grass and did not bind the soil at all, with the result that the surface became deep in a very fine powdery dust.

For about the first three weeks, before the roads had been shaled and other steps taken to keep down the dust, a steady wind used to blow all day and almost every day, raising clouds of dust which penetrated everywhere. One breathed dust—it got into one's food even more than the flies did and combined with perspiration to make one literally filthy, and even more uncomfortable than one would be anyhow in a small* tent in the intense heat of that time of the year.

We had no thermomoter until July, when No. 8 C.F. Ambulance got one and the highest temperature recorded inside the ambulance tents

*Officers: 80 lb. or 40 lb. Other ranks: 160 lb. with single fly with about eight British or twelve Indian other ranks to a tent. Later, about the end of June, large E.P. tents were substituted.

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was 117 degrees on July 4th. One man of the K.D.G.'s died of heat stroke.

The nights might have been worse. There was generally a slight breeze, which sometimes grew into a dust storm and completely spoilt one's night's rest by stirring up the dust clouds described above.

The heat was dry all through May and June, but began to get rather steamy about the first week of July.

There are no real "rains" in Afghanistan as there are in India, but there was a little rain in the middle of July, and again the first week in August. Each fall reduced the temperature slightly, but only for a few hours.

We were lucky in having no mosquitoes or sand-flies in the camp, though they swarmed in the pickets outside.

At first our foraging parties met with no opposition, but, as the effect of the action of May 16th and 17th wore off, the tribesmen began to collect about Hazarnao, and would follow up our force as it withdrew to camp.

On June 21st a trap was laid for them. Infantry, artillery and machine guns were hidden in position across the line of withdrawal, and the tribesmen, who followed up close on the heels of the cavalry as they came back, walked straight in and suffered a good many casualties.

Soon after this foraging was stopped, as there was nothing more to be got, and a routine reconnaissance was sent out every morning and most evenings to make sure that no enemy were collecting about Girdi. In addition, one squadron was detailed daily as escort to the convoy going to Landi Khana and back to camp, and another squadron was sent out every day to observe the country to the south-east of camp, up the Chinnar Nullah.

Almost every night one or two snipers fired into the camp from the north bank of the Kabul River.

None of the steps taken to stop them had much effect until July 25th, when a detachment was sent over the Kabul River, near Lalpura, to form a bridgehead to cover the construction of a bridge which was completed a few days later. After this there was very little sniping.

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The total casualties from sniping in 1st Cavalry Brigade were one man, 45th Mule Corps, wounded, and the following animals :—

	Killed.	Wounded.
Horses	2	4
Mules	2	2

While the force was in the camp near Robat Fort, the camp and area around were divided into sectors for purposes of defence.

1st Cavalry Brigade were responsible for the south-east portion of the camp, where the units of the brigade were for the camel camp, which was just outside the south-east corner of the perimeter, and for the five road pickets on the hills above Haft Chah Post. These five pickets were found by the infantry of 1st Infantry Brigade, who arranged for their relief every five days.

Careful dispositions were made for defence against attack by the enemy but they were wasted, for no enemy attacked, but the local tribesman turned them to his advantage. Knowing that we shut ourselves up in our perimeter every night, he studied our dispositions and looked round for something to steal.

The K.D.G.'s had two E.P. tents pitched just outside their perimeter for use as a regimental coffee shop. These two tents were pitched together, one in prolongation of the other, so that the sentry on duty near by could only see the outline of the nearer of the two tents. One dark night (July 23rd-24th) a party of tribesmen came up and cut the ropes of the tent farthest from the sentry, rolled it up and, finding they had not been seen, they did the same with the second tent, and even then they had worked so quietly that it was not till they were dragging the tent away that the sentry suspected anything. He raised the alarm, but no one was allowed outside the perimeter at night and the tribesmen made away with both the tents.

Two days later we got a bit of our own back by killing one of another party which came to try and steal another E.P. tent, which we had pitched some distance outside the perimeter, with a guard hidden near it.

On the same night that we killed this man another party of tribesmen got into the camel camp and went off with nine good camels. Our protection of the camel camp had never been secure, but all available

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wire was being used on strengthening the obstacles round the road pickets and the pickets on the heights protecting the camp. The camel stealers knew we would eventually take steps to close the nullah by which they had entered and left the camel camp, and so tried again the very next night, hoping we would not be able to get anything done so quickly.

However, the theft of the camels had ensured the issue to us of the necessary wire, and the nullah was well wired before the next evening, and also we put out a detachment of Gurkha scouts a little way outside the wire and in the nullah by which the tribesmen had come. About 01.00 there was a tremendous fusilade and a good deal of shouting, and the next morning a triumphant little Gurkha reported at Brigade Headquarters carrying the head of one of the thieves who had made another attempt to get at the camels. There was a good deal of blood about in the nullah next morning, and no more attempts were made to steal camels.

Only one other incident is worth mentioning. The telegraph wires back to Landi Kotal were continually being cut, and by August 11th it was fairly certain that the wire cutting was being done by tribesmen who worked down the Chinnar Nullah from Darband. They were doing it very thoroughly, and as they became bolder, through not being interfered with, were carrying off long lengths of wire and posts. It was therefore decided that if the wire was cut on the night August 11th-12th, when there was a bright moon, two squadrons K.D.G.'s would gallop down the road and try and catch them in the act.

Preparations were made accordingly, and directly Signals reported the wire cut the K.D.G.'s, who were ready saddled up, galloped down the road. They eventually came up with the party of tribesmen at the south end of the Chinnar Nullah, where it comes out of the foothills, killed one of the party and recovered the wire and posts, which the tribesmen had actually carried off with them, even though they knew they were being chased.

The Afghan delegates from Kabul passed through Dakka on July 24th; peace was signed at Rawalpindi on August 8th, 1919, and the last units of the 1st Cavalry Brigade left Dakka for Risalpur on August 27th, 1919.

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There were many lessons to be learnt from the operations.

The following are the main points collected from the experience of all units in the brigade. They are only intended to be of interest from a cavalry point of view :—

Picketing.—The vital importance of picketing the heights round camp was emphasized by the actions of May 16th and 17th.

The site chosen for the first camp was 2,300 yards from the heights, which were eventually occupied by the Afghans, and for ordinary frontier warfare this is considered a safe distance, but was not so when the Afghans brought mountain guns into action.

The Cavalry Brigade was very much below establishment and would have found great difficulty in finding dismounted men for picketing, but there is no doubt that even one strong picket on the main height commanding the camp would have gone far to preventing, or anyhow assisting, the action of May 16th and 17th.

It is never possible to say the country is clear of the enemy, as these tribesmen appear and disappear with extraordinary rapidity, therefore, even if numbers are not sufficient for complete picketing, always picket vital tactical points commanding camp.

On advanced or rearguard, if cavalry have to picket, they should not send their pickets higher than is absolutely necessary.

Camps.—Nullahs leading into a perimeter camp are a danger unless they can be securely blocked and held, but depressions which give cover to animals may save a lot of animal casualties, e.g., nullahs in which all animals were collected on May 16th and 17th.

Reconnaissance.—(1) Patrols must not work so far ahead of support as they are able to do in civilized war.

(2) Patrols should not be less than eight men, allowing a certain fighting strength and also for the removal of wounded.

(3) Firing a few shots at a locality in which the enemy is suspected will often make him show himself.

(4) *All* men should be trained to keep on the look-out *all* round *always* and report anything seen or suspected.

Rearguards should remember the pace at which tribesmen can cover rough ground.

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Last to withdraw should not, therefore, hang on too long, and when they retire should do so at a rapid rate.

Fire Control.—Controlled bursts of fire were more effective than independent.

Magazines must always be recharged before leaving a fire position to mount.

Defence.—A perimeter camp should, whenever possible, be built up on a framework of machine guns and Hotchkiss guns.

If possible put out concertina wire or some such obstacle in front of the perimeter.

Wounded.—All ranks should be instructed in first aid and the best methods of getting a wounded man out of action.

Horses.—(1) A hoof dressing was required, owing to the stony ground and dry heat. Linseed or castor oil were found the best.

(2) During sniping or in any alarm in a perimeter camp, at least one man is required to every three horses.

(3) Pack horses were best for tool and S.A.A. packs. Mules could not keep up.

Rifles.—Bolt covers helped to prevent the dust causing jams.

Ammunition needs cleaning from day to day.

Hotchkiss Guns. (1) *Organization.*—There are many more chances of shock action likely to occur in this kind of warfare than in, say, France. It is therefore recommended that the Hotchkiss guns should be grouped in one troop, making a squadron of three rifle or shock troops and one Hotchkiss troop.

The Hotchkiss can be detached to troops when necessary, but rapidity of movement is essential, and a Hotchkiss in a troop was found to delay it in coming into and going out of action.

(2) *Reconnaissance.*—A Hotchkiss gun impedes a troop when trying to move fast over bad ground.

The guns were most useful for covering either the advance or retirement of reconnoitring troops.

(3) *Rearguard.*—Pack horses will not stand to be loaded if the troop moves off first. The gun should therefore be withdrawn before the main body of the troop.

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If the enemy is following up closely the gun requires an escort.

One regiment lost two guns from remaining in action too long—one had been taken to pieces to rectify a jam when it was discovered that the party was almost surrounded and the barrel was too hot to carry and had to be left; the other was lost through the gun horse being hit. It broke away and galloped off to the enemy. This would have been much less likely to occur if the gun had retired before the troop.

(4) *Local Factors.*—The fine dust was a great handicap to the working of the gun. It is too easily able to get into the mechanism, which is also, probably, affected by the extreme heat.

When picketing the hills the gun had to be carried up by hand and got so hot that it was almost impossible to handle it.

In rocky ground it was often impossible to observe fire, and a proportion of tracer bullets would have been very useful.

(5) *Ammunition Supply.*—Reserve ammunition should be carried packed in strips ready for use.

(6) *Equipment.*—A large oil bottle and brush fitted into the stock would have been useful.

The stocks of the guns were weak and continually getting broken.

An asbestos pad was needed on the barrel.

(7) *General.*—The gun performed satisfactorily in the hands of really efficient gunners. They produced excellent results up to 1,500 yards and the gun had a great moral effect on the Afghan.

Machine Guns.—(1) Were most useful to keep down the enemy fire and so cover advances, retirements, attacks, and picketing.

(2) The guns were on pack and therefore must not remain in action too long with rearguards.

(3) A proportion of tracer bullets would be useful for ranging on rocky ground.

(4) The mechanism needed protection from the fine dust of Dakka.

(5) The extreme heat involved the use of much more water than their equipment allowed the squadron to carry. They supplemented their supply by taking one large water *chagul* (canvas bag) per gun on the gun side of the pack horse.

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Artillery.—(1) The thirteen-pounder R.H.A. was able to go almost everywhere the cavalry could go themselves.

(2) Open positions with voice control were nearly always far the best. Targets are generally very fleeting and quickness is therefore essential.

(3) It was found possible to use the cavalry to camouflage the guns when moving across the open and so get guns up within useful range. The guns moved with the cavalry closed up round them.

(4) 4·5 howitzers were used on several occasions and most successfully co-operated with cavalry.

General.—The country is by no means "ideal" for cavalry, but once through the Khyber Pass there is ample space in which to use a Cavalry Brigade.

In an advance from Dakka to Jalalabad along the south bank of the Kabul River the country can best be described as follows:—

First Dakka Valley.—A more or less flat, stony plain about 2,500 yards wide (from east to west) and running south from Dakka to the foot-hills below Darband about 5,000 yards, with nullahs in it as shown on the map.

The ground is very stony, but cavalry can trot over it. The nullahs have very steep banks in places, but can be crossed at many points.

This valley is divided from Girdi Valley by hills which run right across the main road from the south bank of the Kabul River. These hills rise to about 3,000 feet, and the average distance from Dakka Valley to Girdi Valley is 5,000 yards. There are three routes across them which are passable for cavalry.

The best is the main road through the Khurd Khyber Pass, but two alternative routes were reconnoitred: One over the Garhai Ghakhe Pass and the other by a narrow path turning south-west just east of the Khurd Khyber Pass, over West Spur, and into the valley about due east of Gurkha Hill. This latter path would only take cavalry in single file, but the Garhai Ghakhe Pass was just good enough for horse artillery to get through.

The going in the Girdi Valley was stony but rather better than in the Dakka Valley and cavalry could move at a canter over most of it.

Another line of hills similar to the first one divides the Girdi Valley

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from the plain of Basawal, but these hills do not run across the main road but parallel to it from Gurkha Hill to Hazarnao.

In addition to the main road, the Sam Ghakhe Pass could be used by cavalry.

Beyond Hazarnao was a wide open plain with plenty of room to manœuvre and only one defile (the Choragali Pass) to be crossed before reaching Jalalabad.

The only thing against moving a large body of cavalry in this country is, of course, the difficulty of feeding the horses. Either troops have to be used to obtain fodder for them or a very large amount of transport is necessary to bring it up.

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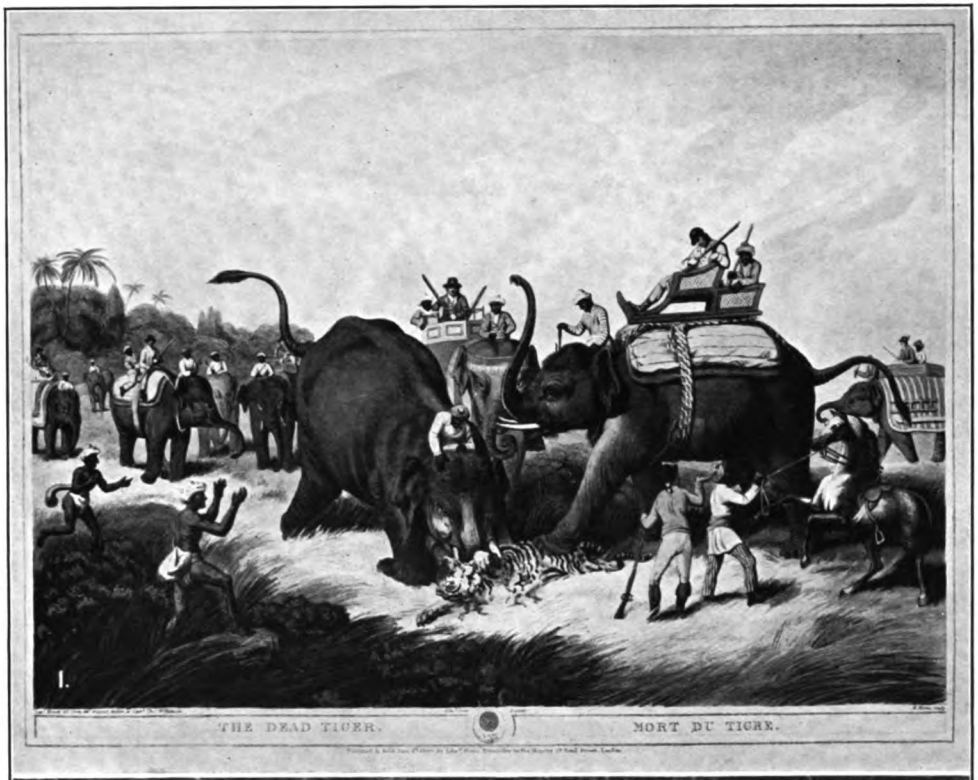

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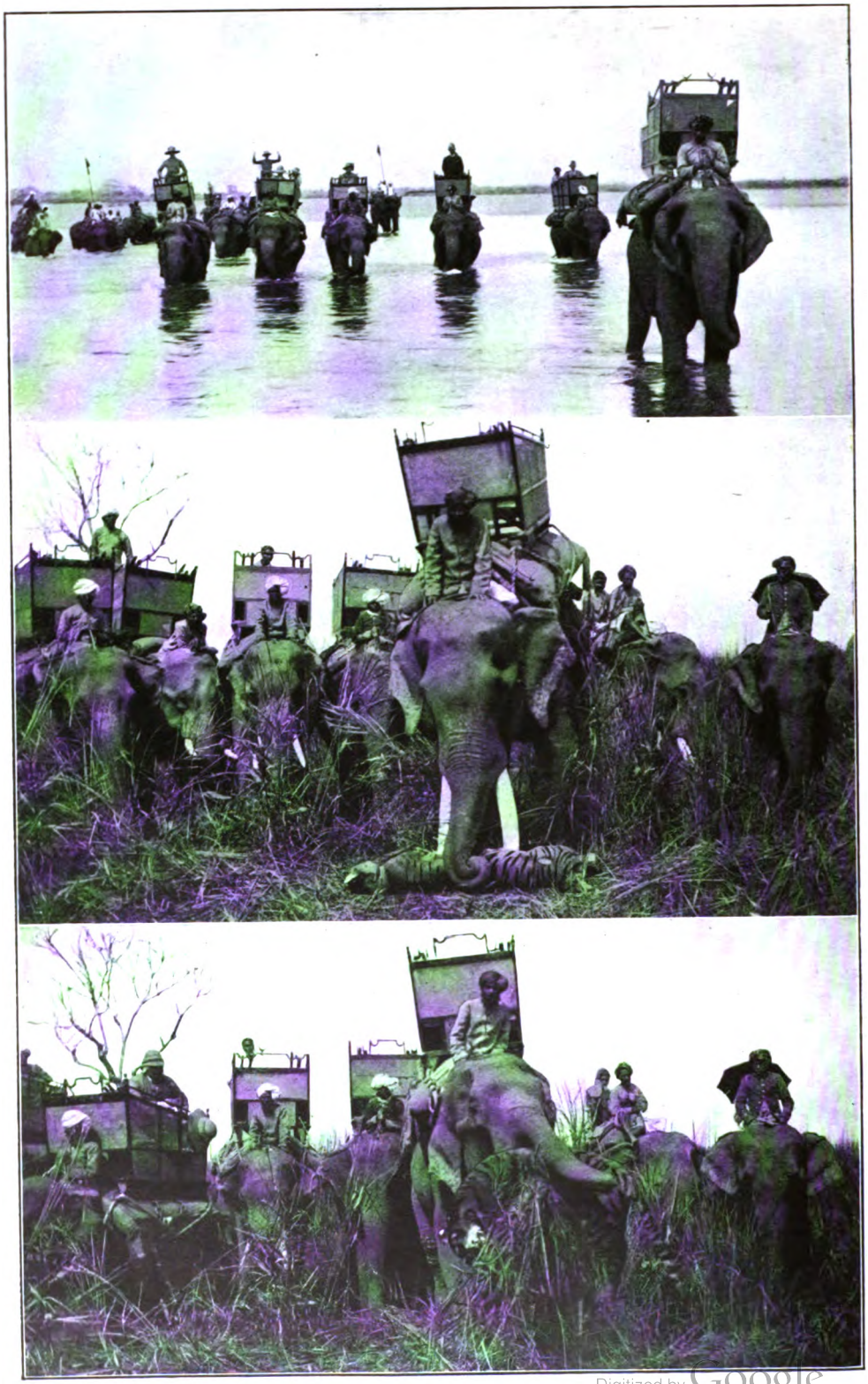
1.– In the days of our Grandfathers. Working up a nervous Elephant's courage by giving him a dead Tiger to worry. 2.—Shot in the open.



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ROYAL SPORT.

SHOOTING WITH ELEPHANTS.

HISTORY relates that the Emperors of the Mogul hegemony, the virile Rajput rulers and other princes of Hindustan, in the days of arquebus and matchlock, engaged in the royal sport of shooting, from the backs of trained elephants, the great game of India which during that epoch comprised among the *felidae* the lion,* whose haunts included Bundelkhand, the Central Provinces, Central India, Sind, and the Punjab, though now the original race is limited to the Gir Forest in Kathiawar.

Sportsmen to-day use elephants in organized troops, composed of pad elephants used for beating, with a due proportion of trained elephants carrying the "guns," in the Terai forests along the foothills of the Himalayas, from Assam and the Maharajah of Cooch Behar's reserves on the east to the west of the Nepaul State, as well as in hog-hunting beats in the Ganges and Jumna valleys. Moreover, every kind of game, ranging from the diminutive quail to the gaur, is shot from elephants, on the system of walking up the birds, throughout India from Kashmir to Cape Comorin. Without them all beating for tiger, rhinoceros and buffalo would be impossible, in the thick grass and swamps that border the Himalayas on the south, where the grass in places is so high that it reaches at times to the top rail of the howdah, about fifteen feet above the ground.

Some elephants are staunch and will face a wounded tiger time after time, even after being severely mauled, others are so timid that when going through a jungle far from civilization they are in a constant state of nervousness and the faintest strange scent or sound may cause them to swing round and stampede.

* Felis leo gujratensis.

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My elephant once mistook the grunt of a camel for that of a tiger and proceeded to demonstrate the pace at which he could shuffle along through the forest. He knew what branches would clear his back but made no allowance for the howdah, which was not, I regret to say, insured.

The Bhegum of Bhopal's son a few years ago was in pursuit of a tiger, which sprang on to the right front of the elephant on which he was riding. He killed the tiger with a point-blank shot. The mahout tried in vain to steady the elephant, which turned and fled through the overhanging boughs of the forest. The riders succeeded in slipping off and the panic-stricken animal arrived, after covering a day's journey in a couple of hours, in the streets of Bhopal without riders or howdah and bearing the scars of the tiger's claws and teeth upon his head and shoulder. The dismay in the royal palace may be imagined until later news revealed that all was well. That tiger, in memory of the adventure, is set up in a glass case close to the record Sambur head, which measures fifty-three inches and fell to the rifle of Her Highness's consort.

Elephants dislike the smell of blood and sometimes refuse to pick up snipe for this reason, though they are quite capable of doing so ; indeed, the mahouts in the Kadir country often make display of the wonderful powers of scent and delicacy of touch of the elephant's trunk by making them pick up coins thrown into the grass. In order to overcome their aversion to dead animals and to work up their courage and instinctive hostility to " Master Stripes " it is usual at a big shoot, when a score of tigers are bagged, to give one of the smaller ones to some of the elephants to worry. The mahouts cause them to kneel on the defunct tiger, stab it with their tusks, and they often kick the carcase backwards and forwards from front to hind feet.

In Siam the elephant's tusks are never cut or blunted as in India, because they are needed for self-defence.* In many parts of that country the elephant spends a large part of his captivity holiday-making in the jungle, more especially in the Malay Peninsula, as, for instance, at Champawn and Sungkla, where there are large numbers of domesticated elephants for whom there is little or no work for the greater part of the year.

* As recorded by H. Warington Smyth, C.M.G., in "Five Years in Siam." London. John Murray.

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The animals are loosely hobbled in the jungle, and are there left to enjoy themselves for weeks at a time, the mahouts going out to look them up occasionally. Even those who are harder worked are put out at night in the forest, and have to look after themselves. The consequence is that in a country where the royal tiger and the leopard abound the animals must be allowed to retain their tusks for self-defence. At night they will be usually found standing together head to tail for purposes of mutual support, each protecting the rear of his companion while his own is also guarded. In the few cases I have known of elephants being attacked by tigers, the latter has always come off second best, in one case being killed outright. If once the tiger gets on the elephant's back, the latter's only chance seems to be to bolt through low forest and sweep the enemy from his back. Sanderson* has remarked the curious fact that the elephant rarely attacks a man on the back or neck of another elephant, and that the mahout is practically safe among a wild herd. Perhaps in the same way the comrade of an attacked elephant gives no further assistance when a tiger reaches his back. For the protection of his flanks the elephant uses his hind feet. The kick is administered with incredible swiftness, and is very violent. It is always best to approach an elephant, like a horse, from his head, for, though a docile creature, he is easily startled, and will then act with the swiftness of instinct. Once he has had a good look at you and has heard the sound of your voice, and especially when he has received a bunch of bananas at your hands, there is no fear of his being startled by the white man's strange dress, which is at first a puzzle to so many. The sense of touch of an elephant is most delicate, and in riding the beast as the mahout does it is astonishing how little pressure of the foot is necessary for his guidance.

The fitness of the elephant and the comfort of the sportsman depend in a great measure on the make and fitting of the harness, and the following points should receive attention :—†

The howdah should be made as light as possible, consistent with strength ; the lower portion, which goes across the spine, should be

* In "Thirteen Years among the Wild Beasts of India." London. W. H. Allen & Co. 1912.

† Based on Notes by F.T.P. in "The Field." 1883. By permission.

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hollowed out, and the whole weight should rest and be equally distributed on either side of the spine resting on two longitudinal bars. On the back of the elephant next the skin there should be a well-stuffed *guddelah* or quilted coverlet; on this, a pad stuffed with pith or *sholah*, which is procurable in most marshes. This should be carefully fitted, so as to lie evenly over the back without undue pressure on the spine. On this, again, another *guddelah*, on which rests the howdah, the longitudinal bars of which have at each extremity two iron eyelets, through which a rope with a piece of soft leather is passed under the throat and tail, thereby preventing the howdah shifting to either the front or back. From each side of the howdah ropes are passed under the belly and drawn tight so as to prevent lateral movement. The skin should be protected by leather bands, but, unless these are kept supple by oil, they are apt to inflict the very wounds they are meant to prevent. The body of the howdah should be raised at least four inches off the longitudinal bars and must be quite clear of the pad. It is better to plank the floor of the howdah, for then the motion is not so much felt; but some people prefer standing on the pad. Purchased howdahs have generally cane work at the sides; this may be covered with light canvas of a green colour. Two strips of waterproof sheeting may be sewn to the top of the two longitudinal bars which connect the front of your howdah with the back. These strips should be of sufficient breadth to cover your guns in their racks in case of rain; and, to keep them in their places, sew bullets to the lower end, which will prevent their flapping or being blown off the guns. The front of the howdah should not be too high; when standing, the sportsman's elbows should come just above it. A howdah should be made to suit the height of the man who is to use it; thus one made for a man of six feet two inches will not suit one who stands only five feet six inches, or *vice versa*. The back of the howdah should be some six inches lower than the front. For the experienced sportsman with good eyesight double howdahs are useless. They weigh half as much again as a single howdah, and a man behind is only an encumbrance and is sure to be in the way when it is necessary to swing round rapidly and fire to flank or rear or to repel a charging animal. Comfort and safety are dependent on the height of the seat from the floor of the

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howdah. The forward end should fit exactly inside the bend of the knee; if less, should the elephant jerk suddenly forward, the rider is apt to be thrown out backwards; if higher, the constant friction against the back of the thighs is not only very annoying, but apt to throw one forward; whereas if of the right height your body will sway to and fro and you will feel perfectly secure.

Shooting off elephants is a knack, to be learnt by constant practice with a light and short rifle specially built and fitted for this sport. Never dwell upon the aim, however steady an elephant may be, for its mere breathing is sufficient to cause enough movement to upset the most accurate aim. Throw the weapon up and fire the instant it touches the shoulder. Experts shoot snipe off an elephant's back nearly as well as on foot, and kill black and marsh partridges, florican and other winged game off elephants in grass jungle, where it would be impossible to see a single bird if on foot.

Before starting for a day's shooting, the howdah should be correctly and straightly put on and well fastened. If it be ever so little out of the perpendicular it should be taken off at once and readjusted; better to do so in camp, where there are hands to assist, than in the jungle, where you have only your mahouts. There is room for four firearms in the howdah, two on each side, fitting into racks made for that purpose. The weapons should have short barrels, just long enough for the foresight to be an inch and a half over the front bar into which the muzzle fits. These receptacles should be lined with felt, just the size of your barrels. There must be no rattling. In front of you, attached to the bar on which the weapons rest and between them, there should be a long shallow box, with compartments just large enough to hold the cartridges without any undue shaking. This box should have a top, which can be raised when it is requisite to take out cartridges. Under this, again, on the floor, you can have another box to hold a *shikar* knife, hatchet, tape, flask, and sundries. Under the seat you can have a receptacle for your breakfast and lunch, but if you can afford the luxury of beating or spare elephants, take as little in your own howdah as possible. Most of the wild beasts in Burmah and Assam are used to seeing wild elephants and therefore care little for them or the noise they make in forcing their

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way through the long grass, so long as they do not scent human beings or hear the rattle of plates, guns and cartridges. It is necessary to be as silent as the grave when after game, for the human voice travels far and does more harm than twenty shots.

Nothing causes a howdah to shift so much as making the elephant constantly kneel and rise. This may be avoided by carrying a folding elephant ladder that will fit alongside the howdah and not get in the way.

The following account of three days' varied sport is an extract from a cavalry officer's experience in 1913,* near Alipur Duar, Bengal :—

" We had to ride to the bungalow on a pad elephant, and I, not being used to sitting on a pad, felt that, unless I held tight all the way, I might slip off at any moment. As there was no *khabar* of tiger, we decided to go after small game, and accordingly we all started out on elephants at 7 a.m. and went across country in line. Proper howdahs were provided for shooting, but it is very difficult to shoot straight unless the elephant stands perfectly still. We saw a good many floricans, partridges, green pigeon and two swamp deer, some of which were shot. After lunch some of the party went off on an elephant with their towels to bathe.

" An early start had been planned for the following morning, so we breakfasted at 5. There was some delay, however, in getting the elephants ready, and about 6.30, just as we were ready to be off, a man came running in to say that a tiger had killed a bullock during the night. This altered our arrangements. The elephants carrying the guns were posted along the edge of an opening in the jungle, and the pad elephants, advancing in line, then drove towards us. Four beats were made round the spot at which the bullock had been killed, but without result. All the same, it was interesting to watch the manner in which the elephants cleared a glade through the dense jungle and an opening through which the guns could get a view of the game. They moved slowly through in line, breaking and trampling all the undergrowth.

" After these four futile beats it was decided to discontinue for the day in the hope that the tiger might return. Events justified this decision, as the tiger did actually come back in the night and dragged the remains

* Lieut.-General Sir H. D. Fanshawe, K.C.M.G., C.B.

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of its victim into the jungle. The procedure of the previous day was now repeated, and the first drive proved unsuccessful. In the second I was posted beside a stream bordered by very high elephant grass. One gun was placed on my left, across the stream, and the others were lined up on the right. Two fine peacocks came sailing over, and suddenly the tiger appeared in the path.

"'*Bagh!*'* whispered my mahout, and the tiger stood facing us about fifty or sixty yards away. I fired at once and hit it rather low, smashing the foreleg and penetrating the hind leg, which turned it over. Two of the others who were coming up on the right got a shot and finished it off, and it proved to be a tigress eight feet five inches long.

"After we had bagged three tigers I returned to the railway station *en route* for headquarters and, having to wait some time for the train, I went to look up the Deputy Commissioner (Twynam) close by and found him getting out his rifles, news having just come in that a wild rogue elephant was raiding the villagers' crops about two miles away. I readily accepted his invitation to accompany him and help drive away the brute or shoot it, if necessary.

"We set off on a pad elephant and found the villagers, some in trees and others close to friendly mounds, watching two elephants, a male and a female, devouring their crops. No elephant may be shot unless it has first been proclaimed by Government to be a rogue, or, of course, in self-protection. We first, therefore, tried whether the animals could not be scared away. The Deputy Commissioner and I stood ready by a big anthill at the edge of the grass with our rifles, while the mahouts guided our tame elephants towards the wild ones. The tusker at once charged straight for our hillock, but, though we were ready for a shot, he turned and, with his companion, made off in the direction of Alipur. They stood for a few seconds beside one of the anthills, but we could not shoot, as one of our own elephants was right in the line of fire beyond the rogue. So we got on our elephants behind the mahout and followed, determined to shoot the tusker if he turned on us. This he did at once, standing with ears cocked and evidently meaning business, but also affording the D.C. a pretty shot that dropped him stone dead. I never

* i.e., tiger.

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remember seeing any other large animal collapse so suddenly; he looked as if he was alive, lying down quite naturally. Then followed a long and fruitless attempt on the part of the mahouts to capture the female with improvised ropes and nooses. She stood looking at them as they approached and suddenly made a rush in their direction. The mahouts were ready for this move. Leaning close down on the elephants' heads, they turned the animals away and suddenly backed so as to bring her between them. This was as it should have been, but they unfortunately failed to get their lassos over her head. This was repeated several times and they twice succeeded, but both times the rope broke and she got away. The tame elephants were left out the whole night in the hope that she might stay in the neighbourhood, but we found next morning that she had gone right away back to the forest."

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CAVALRY UP TO DATE.

By MURGA CHAMAN.

THIS article is written by an Indian cavalry officer, who, having no personal experience in France and Flanders, hopes that it may stimulate those better informed than himself to relate their own experiences, and to set down the conclusions at which they have arrived. There is much that we others have still to learn of the cavalry fighting which took place on the Western Front from 1914 to 1918; there were collisions, some of them on a considerable scale, between our cavalry and the Germans of all arms; during the latter part of the war there were instances of co-operation between our tanks and cavalry, and until the details of these encounters are better known, and the conclusions to be drawn from them better defined, our tactics must remain somewhat hesitating and uncertain.

In order that it may be clear on what points the assistance of eye-witnesses is called for, the writer has attempted to set down the ideas which have come to a keen but distant student of the Great War, in the hope that officers of wider experience and better knowledge of the facts will show him where he is wrong. While thoroughly alive to the necessity of moving with the times, and of adapting cavalry tactics to our latest scientific and mechanical accessories, he is confident that our arm, rightly handled, is more powerful than ever.

I.

In cavalry tactics much change has taken place since 1914; not only has the handling of the arm been revolutionised by its enormously increased fire power, but also our auxiliaries have attained an importance

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never dreamed of before. Our aeroplanes, artillery, light tanks, armoured cars, etc., may well be pardoned in these mechanical days if they look upon themselves as the principal actors and regard our squadrons as the chorus. However, we need not quarrel over terms; just as no army, however equipped, can ever dispense with infantry, so, too, no mobile force, in the present state of invention, can dispense with the horse soldier; we are still necessary auxiliaries, if auxiliaries we are really to be.

II.

For the sake of argument, let us suppose that in the immediate future two armies are advancing to close with one another, each preceded by a mobile force, composed of cavalry, with its horse artillery, machine-gun squadrons, mounted Stokes mortar detachments, aeroplanes, light tanks, and armoured cars. We will suppose that these mobile bodies advance in the usual manner, with air and ground patrols, contact squadrons, and advanced guards spread widely in front; at this point the struggle for mastery in the air must be already in progress.

Behind the reconnoitring bodies will advance the main cavalry force, on a broad front and at an easy pace, with its horse artillery and whippet tanks near the heads of the columns, ready to remove obstacles when met with.

III.

Contact with the hostile mobile force will as always be made more or less simultaneously on a wide front; our patrols and those of the enemy will become stabilised along a fluctuating line, while overhead will continue the struggle for air mastery; meanwhile there will be, along the shifting front, traps laid by both sides, sudden dashes of mounted bodies, cunningly hidden Hotchkisses and machine guns, tanks going forward to tackle them, other tanks hurrying up to protect them, while reports from air and ground patrols pour in to Cavalry H.Q., the main columns assemble in handier formations, and plans are made by both sides.

IV.

Our plans are now complete, and our mobile force is divided into two portions, with different functions: the smaller, but aided by the bulk of the artillery and of the machine-gun squadrons, will deliver a frontal

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dismounted attack upon the long hostile line against which we have run our heads; it is further responsible for our right flank, which our leader has decided to "refuse"; to it also will be attached the heavy tanks, if any such are within call; we will speak of this as the "fire portion."

The larger portion is to take ground to our left flank, where the ground is more favourable, and promises important results, should this, the decisive attack, succeed. While this "shock portion" moves out, covered by a chain of strong patrols, both ground and air, the "fire portion" prepares to deliver the holding attack. Aided by the artillery and machine guns (and heavy tanks, if present), our dismounted squadrons go forward to the attack; our bombing planes are already busy over the enemy's line.

V.

The "shock portion" has cleared our left flank; whippet tanks and (if the ground allows it) armoured cars move well forward, stamping out machine-gun nests, destroying obstacles, and clearing villages; for this movement rapidity is vital. As the sweep continues our intention becomes known to the enemy, who brings up in turn his reserves to parry our thrust. On both sides the tanks clear the front (or engage one another), and the opposing lines of cavalry approach, pestered by low-flying planes, which seek to throw them into confusion; anti-aircraft armaments chase the planes away and the cavalry collision takes place.

Much change in pure cavalry tactics is not to be looked for, though formations during the approach march must be far looser than they used to be, and the order of advancing lines is now very liable to be destroyed by bombing and machine-gun fire from the air. These, however, are troubles which, normally, will afflict both sides, and now, as in the past, the side which hangs on longest will win.

VI.

Having won our shock action how do we stand? The beaten side appears to be in a very dangerous position, with its "shock portion" driven in upon the flanks and rear of its "fire portion," while the tanks and cars of the victors constantly gain ground to the flank, until perhaps they will be able to cut in upon its line of retreat.

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Period of Action.	Cavalry.	Artillery and Machine Guns.	Air Force.	Light Tanks and Armoured Cars.	Heavy Tanks.
Reconnoitring Phase.	Patrols and contact squadrons, main body in several columns, covering wide front.	Near heads of cavalry columns, ready to tackle obstacles.	(1) Fighting for command of the air. (2) Reporting enemy's movements.	With main bodies, well forward.	
In Contact.	(*a*) Deploying with a "fire-portion." (*b*) Forming a "shock-portion" for manœuvre.	Preparing to aid "fire-portion" in holding attack	(1) Gaining command of air. (2) Reporting on possible traps and enemy movements.	Join "shock-portion" for decisive attack.	If any, join "fire-portion" for holding attack.
The Attack (1)	"Fire-portion" initiates holding attack. "Shock-portion" using other as a pivot, takes position for decisive attack.	(1) Co-operates with "fire-portion" in frontal attack. (2) Prepares to aid "shock-portion" in decisive attack.	(1) At all costs conceals preparations for decisive attack. (2) By bombing seeks to disorder enemy's columns.	Destroy obstacles, tackle machine-gun nests and clear villages for "shock-portion."	Aid "fire-portion" in dismounted attack.
The Attack (2)	"Fire-portion" closes with and pins enemy down. "Shock-portion" delivers decisive action, mounted.	(1) Diverts larger portion of fire, to assist "shock-portion" in decisive attack. (2) Remainder assists "fire-portion" to pin enemy.	(1) By bombing and machine-gun fire disorders enemy's mounted lines in decisive attack. (2) Hinders movements of enemy's reserves.	Guard flanks of mounted squadrons in decisive attack. Make every effort to disorder hostile squadrons.	With "fire-portion" closing with enemy's position.
The Pursuit.	"Fire-portion" carries enemy's position and hampers their retreat. "Shock-portion" rallies forward to cut hostile retreat, and keeps his beaten squadrons on the run.	(1) Bars all roads used by enemy in retirement. (2) Part joins "shock-portion" to co-operate in pursuit.	(1) By bombing and machine-gun fire throws hostile columns into confusion and hampers their retreat. (2) Watches for enemy's movements and possible fresh troops.	By working round flanks seek to cut in on enemy's columns in retreat. Great boldness in handling is now called for.	Aid "fire-portion" to mop up enemy's position.

The above diagram may be found useful by those readers who wish to follow any particular portion of the "mobile force" throughout the imaginary engagement.

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And how can the "fire portion" hope to escape, with hostile planes buzzing like hornets over its led horses and communications, while hostile squadrons press it hard on front and flank? It would seem that such bodies as escape will only do so at the price of total disorganisation for the time being; in fact, the beaten cavalry side will be in very much the same position as the Turkish Army after our great offensive in Palestine (September, 1918).

VII.

So much for the cavalry fight. Now as to the attack on other arms, our new armament and auxiliaries have already been treated with so much detail that a few words will suffice. It is clear that, the fire power of all modern arms being now so great, it is only possible for any attack, whether mounted or dismounted, to succeed

(1) When the enemy, for any reason, cannot employ his full fire power to repel it.

(2) When our own fire power is sufficient and can be fully employed to support it.

Or in other words, if cavalry makes full use of its adjuncts, artillery, tanks, planes and various machine guns, to prepare its attack, it may still hope for success against hostile guns and infantry, so long as the enemy is precluded from making full use of his own resources, whether this result is brought about by surprise or by the circumstances of the preceding fighting. Tanks, of course, must be tackled by our own tanks, and we of all nations have no reason to fear the result; the remedy for tanks will possibly be found in the air, unless perhaps the remedy for low-flying planes is previously found in the tank.

VIII.

In conclusion, may the writer draw attention to the extraordinary interest possessed for all cavalry officers by the fighting in Palestine, particularly that between September, 1918, and the armistice with Turkey? Here may be found perfect examples of what can be done by cavalry against an enemy in hurried retreat, even one so resolute in

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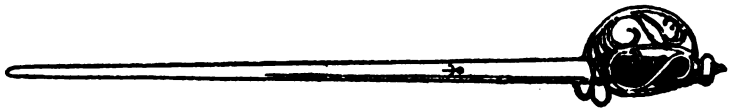
defence as the Turk is known to be. Moreover, a rare circumstance with us, our cavalry had the advantage of adequate numbers, a lesson which we will hope has been taken to heart.

Lastly, remembering the interminable controversy on the *arme blanche*, and how useful a force its opponents have always claimed that they found in the overseas mounted riflemen and their armament, a cavalry officer cannot but feel some satisfaction when he recalls that in August, 1918, the Australian Mounted Division (eight regiments of Australian Light Horse and one regiment of regular French colonial cavalry) was equipped with swords and practised in their use; and that, in September, 1918, these war-seasoned squadrons, despite the short time available for training, were able to make good use of their new weapons during the Turkish debacle and the advance to Damascus.



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CO-OPERATION OF AIRCRAFT WITH CAVALRY.

By MAJOR A. W. H. JAMES, M.C., R.A.F.

CO-OPERATION TRAINING.

HAVING considered the rôle of aeroplanes working in conjunction with cavalry and briefly considered their capabilities, limitations, and vulnerability, there remains lastly for discussion the training necessary for co-operation during operations. The training of the R.A.F. observer who is to work with cavalry is outside the scope of the present discussion, but it may be remarked that, provided that he has the knowledge of cavalry tactics which is essential to be able to appreciate the situation, his work is normally easier than that of the observer working with the artillery or infantry. The state of open or semi-open warfare under which cavalry may be expected to operate, the consequent diminution or dispersal of enemy opposition in the air and upon the ground and the possibility of the aeroplane being able to land near a report centre or a body of troops, is favourable to close liaison. A point, in parenthesis, which must be remembered is that in the corps reconnaissance squadron the pilot will normally do his own observation, so that the terms pilot and observer are synonymous, the word observer, when used in this article, implying also the pilot of the machine. The speed with which cavalry move renders the work of the observer easier rather than more difficult, as constant turning in a machine with a ground speed of over seventy miles per hour makes observation confusing and interrupted, while to travel miles is the work only of minutes. The observer working with cavalry must become infected with the cavalry spirit. A comparison of cavalry and infantry contact reconnaissance may be made with fox-hunting and hare-hunting. In cavalry contact patrol work and in fox-hunting when

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in doubt cast forward, in infantry contact reconnaissance and in hare-hunting when in doubt cast back. If full use is to be made by cavalry of the assistance of aircraft, it is essential that every officer, N.C.O., and man shall have a working knowledge of the following four points :—

(*a*) The capabilities and limitations of aeroplanes in certain respects.
(*b*) Self defence against low-flying aeroplanes.
(*c*) Concealment from aerial view, and the elements of camouflage.
(*d*) Contact patrol, *i.e.*, direct intercommunication.

We will therefore take these four points in order and consider how training in each may best be undertaken.

(*a*) The Capabilities and Limitations of Aeroplanes for Reconnaissance, Signalling, Aggression, and Self Defence.

It was remarkable even at the end of the past War what a small percentage even of officers knew the salient features of the structure of an aeroplane. It is evident that without some knowledge of what an aeroplane is made of, how it flies, and what view the occupants have, all aerial work must appear mysterious and beyond the ken of the uninitiated. Familiarity breeds confidence, and hitherto confidence has been lacking. Before any co-operation training is attempted an examination of a machine upon the ground is desirable if not essential. The best way of starting training is for an aeroplane to land upon the training ground, or for a party to be taken to the aerodrome. About fifty is as many as can be advantageously dealt with at a time with one machine, and at least an hour should be allotted for the purpose. A corps reconnaissance machine, fitted with wireless, camera, machine guns and contact control apparatus, should be used. The party gathers round one side of the machine and the pilot explains to them the following points :—The general construction of the machine, what it is made of and how and why it flies. The type of machine, its name and uses and a comparison with other types. The controls, how and why they work Where the occupants sit, and their field of view when the machine is in the air. This is most important, because it is found that untrained troops are most apprehensive of being seen by a machine when it is *approaching* and will not shoot at a low flying machine till it has passed and is going away from them. This

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is doubly wrong, because a machine is both easier to hit and the observer's view is most restricted from the front. He explains the vulnerability of the machine to ground S.A. fire. The vital parts, and the reason why, for example, a bullet through the petrol tank, sump, or radiator, though it will compel descent in a short time, will not immediately bring the machine down. The reason why a machine must have space to land and to get off. How a machine lands and gets off. How and where the wireless apparatus, camera and contact patrol signalling gear is carried and how worked. How the Lewis and machine guns are carried and their field of fire. This should be followed up by an explanation of the difficulty of accurate shooting in aerial fighting owing to wind pressure, unstable platform, variable target, elevation, etc. Bombs, how carried and released; bomb sights. Following this explanation of the machine it will be found valuable if it can be arranged for as many of the class as possible to be taken up for short flights of from ten to fifteen minutes. On these flights the pilot should endeavour to emphasise and point out to his passenger the points made in the previous lecture on the machine, as for example the restriction of the field of view and increased difficulty of observation when making turns. He should also endeavour to find and show any simple object lessons in concealment and reconnaissance which the vicinity may offer. It is nearly certain that there will be tracks which may be pointed out, the clearness of traffic on roads is always to be seen and, if the sun is shining, the intensity of shadows can be demonstrated. Especially important and nearly always to be found is some earthwork such as a practice trench or even a refuse pit, the conspicuousness of which may escape the passenger's notice in his preoccupation in the sensation of flying unless pointed out. Deliberately losing the passenger by a twisting and turning flight at under 200 feet is an excellent way of proving the fact that the low-flying machine is at a disadvantage for reconnaissance. At least half an hour can always be most profitably devoted to questions and answers, and the theories that will be advanced and the ideas propounded will be found to be most astonishing. These discussions are most profitable and are the only way of dragging to light perverted notions that linger at the back of the soldier's mind. Scotch troops will be found to be reluctant to ask questions,

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but very argumentative once they get under way and very tenacious of opinion.

(*b*) SELF DEFENCE AGAINST LOW-FLYING ENEMY AIRCRAFT.

The principles of S.A. fire against aircraft have been fully gone into in the last number of the CAVALRY JOURNAL. It remains for some methods of inculcating the use of those principles to be suggested. The first essential is for troops to be able to recognise their own machines from those of the enemy. This can be achieved by familiarising troops with our own types and explaining simply their uses and peculiarities. The army co-operation squadrons which are being formed as a separate part of the permanent peace establishment of the R.A.F. will be able to arrange that troops with whom they are working will have the opportunity of seeing machines of various types upon the ground and in the air. All officers should certainly know the types in use by the R.A.F., nor will this be as difficult as it sounds. The war-time plethora of types, with their short active life, is a thing of the past and the general adoption of a limited number of types is already accomplished. The second thing that all ranks must be able to do is to be able to judge the height of a low-flying machine to within, say, a 25 per cent. margin of error. Nor is this expecting the impossible. Troops must know when a machine is under 3,000 feet; without this knowledge they will not know whether a machine is or is not within range. That war-time horror of seeing thousands of rounds a day fired by rifles and machine guns at machines up to 20,000 feet must never occur again. In the latter part of 1917 and the beginning of 1918 a series of courses in co-operation training between aircraft and other arms were held in France. It was found by experiment, and repeatedly confirmed, that the average officer *underestimated* the height of an aeroplane by about 60 per cent. The only way to inculcate an idea of height into troops is by demonstration. Troops are informed at a certain time, say 12.00 hours, a machine carrying a contact patrol distinguishing board will appear over their parade ground or wherever the rendezvous be fixed, flying at 1,000 feet. From 12.00 to 12.05 hours the machine will fly at 1,000 feet and will fire three red lights from that height. From 12.05 hours the machine will withdraw

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for five minutes and return at 12.10 hours at 2,000 feet, at which height it will fly for five minutes, during which time it will fire three green lights. At 12.15 hours the machine will again withdraw and return at 12.20 hours at 3,000 feet, as before remaining for five minutes and firing three white lights. It is an even better plan if it can be arranged for three machines to be used simultaneously flying at 1,000, 2,000, and 3,000 feet respectively, with distinctive markings and firing distinctive lights. This enables comparisons to be drawn and while occupying shorter time is more spectacular. The inclusion of dummy enemy aeroplanes in schemes is an excellent plan and the only way of assuring that troops are keeping a look-out and that their anti-aircraft arrangements are sound and considered. This necessitates the announcement in the orders of the scheme that enemy aircraft will be represented by a machine carrying some such distinctive markings as streamers on the wings or tail. It can, if desired, be arranged without the knowledge of the troops at what hours and heights and where the enemy machines are to appear. The A.A. look-out and precautions, and the estimate of height, can then be checked. In every scheme in the field and on paper aeroplanes should be mentioned. At the present time, as in the War, the very existence of aeroplanes, both friendly and hostile, is commonly ignored. In this connection it may be permissible to quote from the translation of a document by Ludendorff (I. A/54514 of G.H.Q. of B.E.F., 29/4/18) :—

"*No practice should be considered at an end once the position has been captured*, but immediate steps should be taken to restore distribution in depth. *Advanced* detachments should force their way through as quickly and as far as possible, pressing regardlessly and irresistibly forward; *the troops in rear* must afford protection against counter strokes by adopting an organisation in depth and in echelon (machine guns to be held in readiness, flanks to be secured) or will change direction, in order to assist troops on the flanks. If no further progress forward can or is intended to be made, *defensive* measures should be immediately taken (distribution in depth, digging in and *protection from aircraft*. Avoid bunching, reorganise units, arrange for supplies of ammunition and rations)."

During the later stages of the War several corps schools had taken up the question of training men in the best methods of shooting at aircraft

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and much ingenuity was expended in devising model aeroplanes running on lines, etc. What must come sooner or later, and the sooner the better, is that every recruit shall receive during his musketry training instruction in the anti-aircraft fire. A spirit of aggression against the aeroplane that *dares* to fly low must be instilled and a feeling of confidence that the enemy machine below 3,000 feet is " dead meat."

(*c*) Concealment from Aerial View and the Elements of Camouflage.

Here again the army co-operation squadrons should prove invaluable, as a simple as well as interesting method of putting the aerial view of the ground before troops is by lantern slides made from aerial photographs. Slides should be made by the squadrons of the ground over which troops work and lantern lectures given by an officer of the squadron. Photographs should be taken at prearranged times upon schemes, and a regular game of hide-and-seek between the camera and troops carried out. Especially should this be applied to *led horses*, transport, horse lines, and bivouacs. Photographs, both vertical and oblique, should be taken of the ground on which troops work and a liberal issue made, as the only way for any one to acquire the faculty of being able to consider the ground from the aerial point of view is by a careful study of aerial photographs of ground when actually on it. Officers and N.C.O.'s should go up in aeroplanes which are co-operating in schemes, or when schemes are being done, and follow the ground work from the air. In this way valuable lessons are learnt of how to conform to the nature of the ground. Lastly, interesting games of hide-and-seek between their own officers flying as passengers and troops might be arranged. An hour or two's start might be given and troops directed to take cover in a certain area, or to try to deceive the aeroplane as to their strength in various sectors.

(*d*) Contact Patrol or Direct Co-operation Training.

There is nothing difficult in direct training between aeroplanes and troops, and consequently, provided that the preliminary training as indicated above is intelligibly carried out and provided furthermore that no deviation from the methods of working as officially laid down are attempted,

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successful co-operation should be easier than the preliminary work which is involved. Plenty of practice is essential. There only remains to give a few hints which may be of use upon the schemes. Whenever possible let a representative of the formation working with the aeroplane fly as an observer. His word will bear much weight if faults have to be pointed out and he is learning how to avoid those faults when on the ground himself. Signallers must have special training. They must fly enough to realise the aeroplane's difficulty in reading badly placed or ill-centred signals and the length of time for which signals must be exposed. The placing of the report centres involves special training. They must know the importance of getting the report centre sign and the signalling panel correctly placed where it can best be read, of avoiding broken ground, shadow, and the close proximity of anything high enough to screen the sign from a machine low to a flank, and the range from which signals can be read. Officers commanding formations in possession of means of signalling to the aeroplane must learn by experience just how much use the aeroplane can be to them ; its uses and abuses, in fact.

Beware of unauthorised innovations. They were, during the War, a particular hobby of many officers in R.A.F. squadrons. Innovations do not pay and confuse everybody. Contact patrol and the problems of intercommunication are a fertile soil for ingenious minds to flourish in. The difficulties can only be solved by simplicity.

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THE MACHINE GUN CORPS (CAVALRY) IN FRANCE, 1916-1918.

By CAPT. T. PRESTON, M.C., *Yorkshire Hussars.*

III.—JANUARY-MARCH, 1917. THE GERMAN RETREAT.

THE beginning of 1917 saw some of the machine-gun squadrons again in the trenches independently of their brigades.

In the 1st Cavalry Division the 1st Machine Gun Squadron was, from January 2nd to January 29th, attached to the 24th Division in the Hulluch—Loos—Maroc sector, relieving the 17th, 72nd and 73rd Machine Gun Companies at different times. Some indirect firing was done, and on January 10th the squadron supported, with three guns, a raid by a Leinster battalion.

The 9th Squadron reinforced the infantry in the same sector from January 30th till March 1st, being first under the 24th Division and then under the 37th. During the squadron's tour in the trenches one man was killed in a singular manner—by a steel dart dropped from a hostile aeroplane.

The 2nd Machine Gun Squadron went to the 21st Division from February 20th to March 16th, doing duty in the Hohenzollern Redoubt. A good deal of shooting was done at parties of the enemy, and on February 24th a successful shoot was done on a German relief west of Cité St. Elie. On the night of March 8th-9th the guns fired 23,750 rounds at various targets.

The 4th and 5th Squadrons (2nd Cavalry Division) also sent dismounted parties to the trenches in January, the former being with the 15th Division and the latter with the 9th, both in the VIth Corps sector near Arras. Both squadrons had a fairly quiet time, with very few casualties; a certain amount of indirect firing was done.

In the 3rd Cavalry Division the 6th and 8th Squadrons went to the Canadian Corps trenches opposite Vimy Ridge, the 8th Machine Gun Squadron party arriving on February 15th and leaving on March 2nd.

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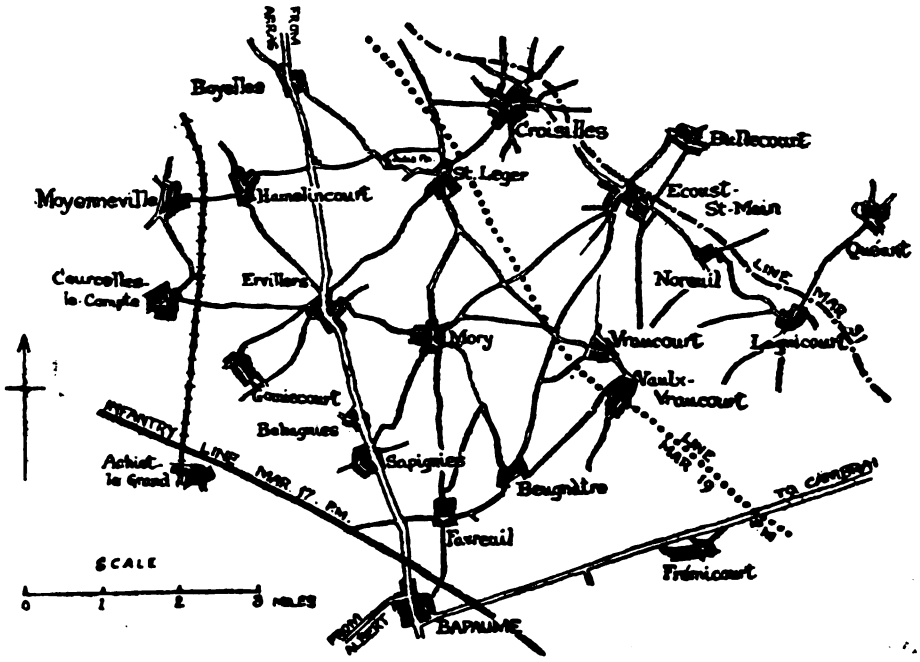
On March 1st they helped to support, by overhead fire, a raid by the 4th Canadian Division (which failed owing to the non-success of a new kind of gas). The 6th Squadron was in the trenches from February 1st to March 1st, and also helped to provide the machine-gun barrage for a raid.

These spells in the trenches were of great value to the machine-gun squadrons. Officers were enabled to see how their men—especially newly-joined ones—behaved under fire, and were able also to get practical demonstrations of the latest ideas in indirect shooting. The men got plenty of practice in working their guns under all kinds of weather conditions, and thereby gained confidence.

On March 17th, 1917, the Germans began their withdrawal to the Hindenburg Line. Fighting became of a more open nature, and cavalry was (to quote the C.-in-C.'s dispatch) "given an opportunity to perform its special duties." The cavalry referred to were the 4th and 5th Cavalry Divisions, which were working with the Fifth and Fourth Armies respectively.



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On March 18th the Lucknow Brigade was acting as advanced guard to the 4th Cavalry Division towards Ervillers and Hamelincourt, and the following day its leading patrols were scouting near Boyelles. A troop of 36th Jacob's Horse, with No. 6 Section 12th Machine Gun Squadron, was ordered to make good the village, from which the enemy was firing. The machine guns were very well handled; they dismounted for action and opened fire on a number of Germans in a trench just in front of Boyelles, the range being about 300 yards. The troop then galloped into the village and the enemy turned tail, retaliating by turning his artillery on Boyelles. The machine-gun section only lost one man and two horses wounded.

In the meantime another section of the 12th Squadron (No. 3, under Lieut. Belford) was advancing on Ecoust St. Mein with another troop of 36th Jacob's Horse. The machine guns opened fire on the village at 900 and 1,200 yards' range, and scattered some German cavalry patrols which had appeared there. The brigade withdrew and took up an outpost line that night, No. 1 Section 12th Machine Gun Squadron covering the Mory—St. Leger road.

Next day (March 20th) the infantry attacked Croisilles, the 29th Lancers being ordered to move round the west of the village whilst the infantry assault was delivered from the south. The 12th Machine Gun Squadron sent Lieuts. G. Few and M. Chennells with their sections to the 29th Lancers; but the machine guns, though they took up a position, did not actually get any shooting. The infantry attack did not succeed, and the machine guns, with one squadron 29th Lancers, filled a gap in the infantry line when the latter retired.

A further attack on Croisilles later in the day was also unsuccessful, and the advance being definitely checked in this sector, the cavalry were sent to a back area.

During the latter half of March quite a number of small cavalry actions fell to the lot of the 5th Cavalry Division, which was operating with the Fourth Army on the right of the British advance; and the 14th and Canadian Machine Gun Squadrons, acting with their brigades, did good work on various occasions.

Lieut. C. L. Snodgrass's section of the 14th Squadron engaged German cavalry patrols near Tincourt on March 19th; on this and other occasions

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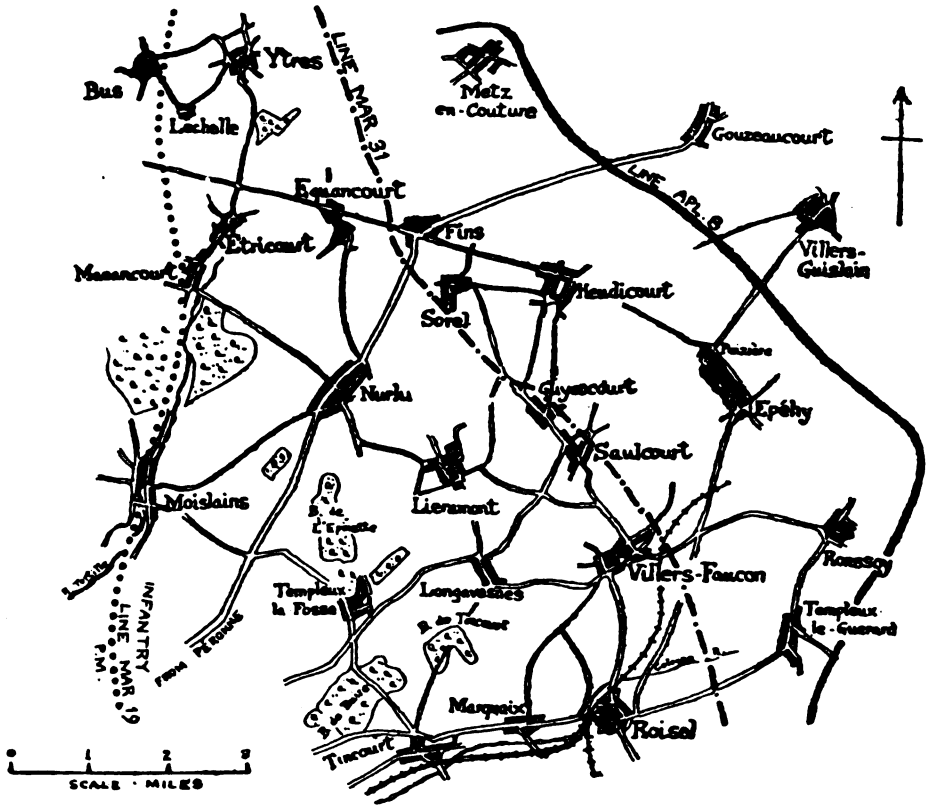
the Barr and Stroud rangefinder proved most useful, and the shooting at long ranges was very accurate. Lieut. Clowes' section, operating with the 8th Hussars, was in action in the Roisel area.

The Canadian Machine Gun Squadron (Captain W. K. Walker, M.C.) took part in the successful actions of its brigade from March 24th to 28th; in five days this brigade (working under the XVth Corps) advanced six-and-a-half miles on a nine-mile front and captured six villages.



On March 24th Lieut. Scott's section, operating with the Royal Canadian Dragoons, opened fire on a German patrol in Tincourt Wood, and silenced some sniping posts. The following day, March 25th, the squadron's camp at Moislains was fired on by enemy aeroplanes; no one was hit, however, and our machine guns returned the fire to such good purpose that one German aeroplane was forced to descend.

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March 26th saw Sergt. Tucker's section in action against retreating Germans at Equancourt; Lieut. G. E. Carveth's section was in position at Bus, and Sergt. Cumbleton's, with the Fort Garry Horse, on the Ytres —Etricourt road, to resist a possible counter-attack; this, however, did not take place.

The villages of Guyencourt, Saulcourt, and Villers-Faucon were captured next day, March 27th. The latter village was captured mainly by the 8th Hussars, and Lieut. Clowes' section of the 14th Machine Gun Squadron did good work. Twenty-three prisoners and four machine guns were taken. One section of the Canadian Machine Gun Squadron also took part in the attack, with the Royal Canadian Dragoons.

The casualties of the Canadian Machine Gun Squadron were light being only six men and eight horses wounded during the five days' advance. The squadron was congratulated on its good work by the Brigadier (Brig.-Gen. J. E. B. Seely), and Lieut.-Col. Patterson, commanding the Fort Garry Horse, wrote to say how greatly his regiment had been assisted by the machine-gun sections attached to it.

By the beginning of April the Germans had reached the Hindenburg Line, and open warfare in this area came to an end.

IV.—Battle of Arras: Monchy-le-Preux.

The Battle of Arras, which opened on April 9th, 1917, witnessed another unsuccessful attempt to pass cavalry through a "gap." Though the infantry advanced about four miles and took many guns and prisoners, the German line was never really broken, and when the leading cavalry units were launched they could make no headway against the enemy's fire.

The weather conditions will never be forgotten by anyone who took part in the battle. Seldom, if ever, has there been such a cold April, and the cavalry probably lost more horses from exposure than from battle casualties.

The 1st, 2nd, 3rd, and 4th Cavalry Divisions were disposed west of Arras, just before the opening attack on April 9th, and during the afternoon of that day were moved up behind the infantry on specially flagged tracks.

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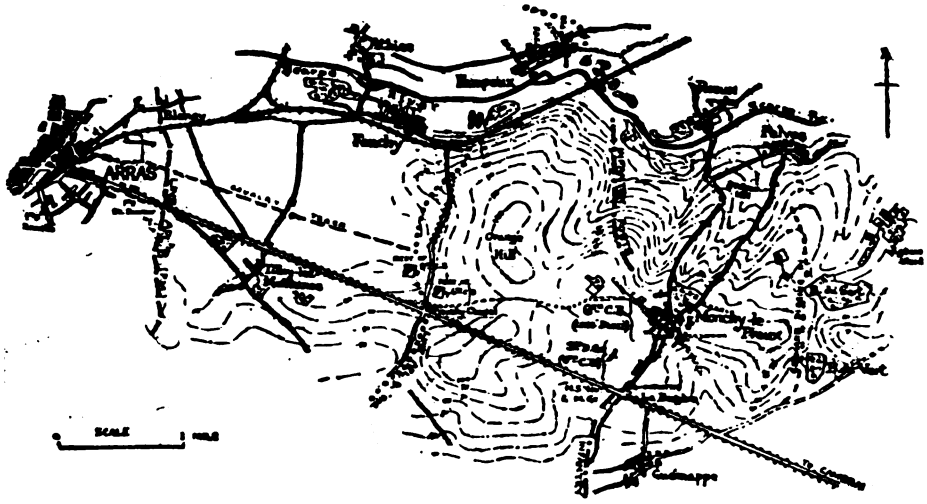
Taking the Cavalry Divisions in turn, the 1st Cavalry Division was to advance north of the Scarpe, through Athies and Fampoux, which it did, but could get no farther. The 4th Cavalry Division was behind the extreme right of the infantry attack, near Croisilles, and here also there was no chance for cavalry. The 10th Machine Gun Squadron in the Sialkot Brigade suffered several casualties from shell fire.



In the 2nd Cavalry Division the 5th Machine Gun Squadron, though it got no mounted fighting, sent four guns into the front line opposite Guémappe during the night, April 10th-11th, to reinforce the infantry. With them were the Hotchkiss guns from the regiments, the whole being under the 5th Machine Gun Squadron commander, Capt. E. S. D. Martin, M.C. This party was relieved on April 11th, having had Lieut. F. M. Stout, M.C., and four other ranks wounded, with 27 horse casualties.

Immediately to the north, the 3rd Cavalry Division was directed on Monchy-le-Preux, and here a determined effort was made to develop the situation by a mounted advance. The 8th Cavalry Brigade, on the evening of April 10th, advanced over the newly-captured ground south of Feuchy, and a squadron of the 10th Hussars tried to charge the German advanced position. This was frustrated by machine-gun fire, and the squadron was only saved from destruction by a snowstorm

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hiding them somewhat. The brigade bivouacked for the night in the snow and mud, west of Orange Hill. The 8th Machine Gun Squadron (under Capt. C. Kerr) was not in action on this date.

At 5 a.m. next day, April 11th, two brigades of the 37th Division attacked Monchy-le-Preux, and about 8 a.m. the 8th Cavalry Brigade was ordered to pass through the infantry and seize certain objectives to the east of Monchy. Accordingly the Essex Yeomanry and 10th Hussars started off, each with two sections 8th Machine Gun Squadron. The Blues, with the rest of the 8th Machine Gun Squadron, were in brigade reserve.

As the leading regiments appeared over the crest of Orange Hill they were met by a heavy artillery and machine-gun fire. They managed to reach Monchy village, but found it impossible to get farther; they dismounted for action, and instead of being a mounted advance the battle became a dismounted defence of Monchy. (It should be mentioned that very few infantry were in the village when the cavalry reached it.)

The led horses and horseholders, left in the streets of the village, suffered terrible losses from shell fire; those who survived were sent back later in the day.

With regard to the 8th Machine Gun Squadron, Sections 3 and 4 (2nd Lieuts. A. H. Fryd and R. G. Faithfull) went with the 10th Hussars. No. 3 Section was put out of action before ever it reached Monchy, both gun pack-horses being hit, and 2nd Lieut. Fryd and Sergt. Gifford both wounded. No. 4 Section came into action in the village and did valuable work throughout the day,

With the Essex Yeomanry were Nos. 5 and 6 Sections, under Lieuts. C. W. Giffard and W. P. Batters; the latter officer, handling his section with great skill, got his guns into action under heavy fire at the east end of Monchy village, and obtained targets on parties of Germans towards the Bois du Sart and Pelves. The No. 1 of one gun, Lance-Corpl. G. G. Jones, was instantly killed by machine-gun fire, as also was the rangetaker, Pte. W. H. Metcalfe. The No. 1 of the other gun, Lance-Corpl. Harold Mugford, was struck in the jaw by a fragment of shell, but continued firing his gun, till another shell broke both his legs. His comrades started carrying him to the rear, but he urged them to leave him and

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attend to the gun. Later, when lying outside the dressing station, he was wounded a third time, in the arm. This heroic N.C.O., though both his legs had to be amputated, recovered from his injuries and was the first man of the Cavalry Machine Gun Corps to win the V.C. He was originally in the Essex Yeomanry.

Lieut. W. P. Batters was wounded in the hand, but continued to command his section throughout the day, though later he had to leave the 8th Machine Gun Squadron for good.

The G.O.C. 8th Cavalry Brigade (Brig.-General C. B. Bulkeley-Johnson) was killed by machine-gun fire about 11 a.m., whilst making a personal reconnaissance. The 8th Machine Gun Squadron owed much to his encouragement and interest, and he was mourned alike by officers and men.

The Blues, having been ordered up to support the leading regiments, advanced about noon, with Nos. 1 and 2 Sections, 8th Machine Gun Squadron, under Capt. Preston, Lieut. Griffin and 2nd Lieut. Wakefield. On Orange Hill, however, they were heavily shelled and compelled to withdraw; the gun pack-horses of No. 2 Section were hit and both guns lost in the snow.

About 2 p.m. another attempt was made to send help to the troops holding Monchy, one squadron of the Blues advancing with Lieut. Griffin's section, 8th Machine Gun Squadron. For some reason the Blues failed to get on, but Lieut. Griffin managed to reach the village and rendered valuable help with his guns.

In the meantime the 6th Machine Gun Squadron had come into action, and we must turn to their experiences.

At 8.30 a.m. (April 11th), "B" Section (Lieut. C. G. Lowden), advanced with the 3rd Dragoon Guards south-west of Monchy and facing La Bergère. The machine guns got a good position and successfully engaged parties of the enemy. At 11.30 a.m., Lieut. Lowden was wounded by a shell and Sergt. Eaton took charge of the section till relieved by the infantry 12 hours later.

At 3 p.m. another section ("D") was sent, mounted, to reinforce the 3rd Dragoon Guards. It came under heavy machine-gun fire from Guémappe and lost five pack-horses; Lieut. Cooper also being wounded.

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Lieuts. C. H. Elmes and M. H. Tisdall were therefore sent instead with two dismounted sections, which went into the line till relieved by the infantry.

By the afternoon of April 11th all hope of a cavalry advance was at an end, and arrangements were made to relieve the cavalry by infantry. This was done by degrees during the night, April 11th-12th, though three sections of the 8th Machine Gun Squadron were not finally relieved from Monchy till the next night. The survivors of the 8th Cavalry Brigade made their way back independently to the racecourse west of Arras, and the whole of the cavalry was soon afterwards withdrawn to back areas to refit.

The 6th and 8th Squadrons were specially paraded to receive the thanks of the G.O.C. 3rd Cavalry Division (Major-Gen. J. Vaughan), who said that the gallantry of all ranks promised well for the future of machine-gun squadrons. He also stated that, in the Third Army Commander's opinion, the infantry could not have held Monchy without the help of the cavalry, so that the latter's sacrifices were not in vain.

The 6th Squadron lost 2 officers wounded, 3 men killed and 4 wounded; whilst the 8th Squadron lost 2 officers wounded, 10 other ranks killed, 27 wounded and 2 missing, with 97 horse casualties. In the latter squadron, Lieut. W. P. Batters was awarded the M.C., and his sergeant, J. R. Tozer, the M.M. Privates G. Hayes and F. W. Cottis greatly distinguished themselves as stretcher bearers under heavy fire; both were recommended for reward, and Private (afterwards Sergt.) Cottis was given later the Belgian Croix de Guerre. Corpl. H. Curphey got the M.M. for excellent work whilst acting as section-sergeant to 2nd Lieut. R. G. Faithfull, who was himself recommended for the M.C. Corpl. F. S. Hoskins and Lance-Corpl. R. Dorman received M.M.'s, and the former subsequently got a commission in the Cavalry Machine Gun Corps.

The following extract from the 4th Machine Gun Squadron diary gives some idea of the weather during the Arras battle:—

> "Twelve horses died during night 11th-12th from exposure and exhaustion. There was a regular blizzard all night, and our lines were in a somewhat exposed position, which was unavoidable. The

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horses seemed just to drop and become unable to get up again. Some few of them we were able to get up, and if one could get them on the move in time they seemed to come round. We eventually turned the majority of the poorer-conditioned ones loose, and let them move about as they liked, and I believe had this been done sooner, in spite of the risk of losing horses, that the casualties would have been reduced. A really good feed, which was not available, would also have been a great help to the horses in withstanding the really awful weather conditions."

One lesson learnt from this action was that it is a mistake to give regiments *two* machine-gun-sections each until the situation has cleared and the second section is really needed. From the foregoing narrative it will be seen that the 8th Machine Gun Squadron lost four guns, and the 6th Squadron two, before ever they were got off the packs, and this was largely because too many sections were committed to the battle at the commencement.

V.—Trench Work, Summer, 1917.

The period from the middle of April to the middle of May, 1917, was spent in refitting. It was about April 25th that the order came out to use the term "Subsection" for denoting two guns, and "Section" for four guns. About May 1st all the machine-gun squadrons were given about 20 dismounted men each, which was a great help; but they all had to be sent to the base in August for transfer to the Machine Gun Corps (Infantry), owing to the demands of the Third Battle of Ypres.

The Cavalry Corps (less 1st Cavalry Division) took over the Epehy—Hargicourt sector of trenches for a part of the summer, whilst the 1st Cavalry Division sent its machine-gun squadrons to infantry divisions farther north. It will be simpler to consider first the doings of the 1st, 2nd and 9th Machine Gun Squadrons of the 1st Cavalry Division.

The 1st Squadron dismounted party, under Capt. F. Lacaita, went on May 17th to the 66th Division (XIth Corps, Givenchy sector), where they did some indirect firing. Later they were in the line opposite Cambrin, and on July 4th were attached to the 2nd Division. On July 10th they had a new experience, being placed under the orders of the 1st Portuguese Division, in the Portuguese sector, north of Givenchy.

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They finally left the trenches on July 15th, having been very fortunate as to casualties.

The 2nd Squadron went to the 5th Division (XIIIth Corps) in the Gavrelle trenches, from May 22nd to 31st, and then to the 31st Division in the same corps from June 18th to July 2nd.

On June 22nd the 31st Division carried out a raid, in which the squadron's guns co-operated. Two guns in the front line were very heavily shelled and were twice knocked over, but were each time put in action again immediately. The infantry in the same trench had withdrawn because of the hostile barrage, but the 2nd Squadron men stuck to their guns and kept them firing, although three men were wounded, including Sergt. L. Bull, who was awarded a bar to his M.M. Lance-Corpls. Hall and Maxwell were the " Nos. 1 " of the guns, and the latter also got a M.M. It is pleasing to note that these N.C.O.'s were recommended, not by their own squadron leader but by the local infantry commander.

An attack was delivered on June 28th by the 5th and 31st Divisions against Oppy Wood, in which the squadron again co-operated with the barrage fire. Lieut. C. H. Miller and one man were wounded, whilst two others were buried by shell-fire but recovered.

The 9th Machine Gun Squadron was in the Vermelles sector (6th Division) from May 18th to 29th, where nothing of importance happened. They went into the trenches opposite Hulluch from June 14th to July 2nd, and again from July 8th to 14th, after which they returned to the horses.

In the meantime the Cavalry Corps (less 1st Cavalry Division) had marched to the devasted area east of Péronne and formed dismounted brigades for taking over the line. All the villages having been destroyed, the troops were entirely in the open, though a certain number of tents were issued. Many ingenious bivouacs and shelters were made out of debris collected from the ruined villages.

The sector of trenches to be taken over consisted generally of a series of posts in front, with a more continuous trench line farther back, and the Vickers guns were placed mostly in this second line. The German

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posts were some distance from ours except at certain points, such as Guillemont and Cologne Farms, east of Ronssoy.

The 6th, 7th and 8th Squadrons (3rd Cavalry Division) did about three weeks each in the northern half of the Cavalry Corps sector, which was very quiet. They had practically no casualties and not much shooting, though some night firing was done on Ossus Wood and village. The 3rd Cavalry Division held this portion of the line from about May 20th to July 1st.

The 3rd, 4th and 5th Squadrons were farther south, and manned their sector in reliefs from May 18th to July 6th. This portion of the line included Guillemont Farm, where the opposing trenches were very close together, and several raids took place. On May 20th two guns of the 4th Machine Gun Squadron helped materially to stop a German attack on the farm; whilst on June 10th guns of the 3rd and 5th Squadrons (under Capt. Martin, M.C., commanding the latter squadron) supported a raid by the Royal Scots Greys. The 3rd Squadron here lost four men killed and four wounded; in the 5th Squadron Private Smith was given the Belgian Decoration Militaire for his work with the guns.

The enemy raided Guillemont Farm in his turn, on June 22nd, starting with a heavy bombardment. The 3rd Squadron lost Private Johnson killed and four men wounded; Lieut. G. Crerar-Gilbert was slightly wounded but stayed at duty. The 4th Squadron lost one man killed and four wounded; the lance-corporal in charge of one gun was wounded but continued firing it till a bomb blew it to pieces, when he retired, after firing his revolver at a German bomber who had crept up close.

The 4th Squadron also rendered valuable help during a German raid on the farm during the night July 4th-5th. The garrison of the farm sent up a prearranged "S.O.S." signal, and the machine guns, though subjected to a most trying bombardment, kept up a very accurate fire in the darkness. Severe casualties were inflicted on the enemy and his advance on the farm was stopped. One of the 4th Squadron's guns was blown up by a direct hit, three of the team being killed and the other two wounded.

(To be continued.)

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PATROLLING AS TRAINING FOR WAR.

By Lieut.-Colonel P. B. Sangster, C.M.G., D.S.O.

In the summer of 1918, the two Indian Cavalry Divisions, which had come from France in March of the same year, were employed in the Jordan Valley, on the right flank of Allenby's Army, one division relieving the other at stated intervals. The Australian Mounted Troops and an Imperial Service Infantry Brigade were also utilised in this part of the line.

The Infantry Brigade held the Ghoraniye bridgehead, with three battalions on the perimeter and one in reserve. In addition to the infantry, a Cavalry Brigade was located at this bridgehead, with the object of supplementing the infantry garrison and carrying out the patrolling in " No Man's Land " between the infantry and the Turks.

Our infantry occupied some low hills to the east of the bridge, covering the main road from Es Salt. The Turks held the hills to the east, and between their positions and those of our infantry there was a belt of plain, from three to five miles broad, which formed the happy hunting ground of patrols from either side.

The bridgehead defences were divided into three sections, with a battalion allotted to each. In addition in each section there was located a cavalry regiment, whose duty it was to furnish pickets by day and night outside our wire in front of the infantry.

These cavalry pickets were pushed out about a mile to two miles in front by day, being brought closer in by night.

They consisted of one or two troops each, and were in telephonic communication with Regimental Headquarters in the bridgehead.

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From the pickets patrols were sent out at varying intervals towards the enemy, with the object of preventing any surprise concentration, and of dominating "No Man's Land."

Hardly a day passed without some patrol encounter, which almost invariably resulted in prisoners being brought in. The enemy used very few cavalry, and generally sent out his infantry patrols to lie up in the scrub with a view to scuppering our patrols when they came along. They never came very far in front of their machine-gun positions, and were also covered, as a rule, by their artillery from commanding positions on the heights.

Although this came to be recognized by our patrols, it did not deter them from galloping at the enemy patrols with the lance or sword whenever encountered, and thanks to bad shooting, such attacks usually resulted in a bag.

On one occasion a British officer's patrol, consisting originally of the officer and four men, went out by day from the cavalry picket on the Wadi Nimrin to ascertain the cause of a fire in the crops a couple of miles ahead.

Shortly after the patrol started off it was joined by two recruits who had been sent out on a short distance "scout" for practice. The two youngsters took care, however, to remain concealed from the eye of the Commander until it was too late to send them back, even if he had wanted to.

The patrol moved up the Wadi Nimrin under cover for a considerable distance, and then bore left handed into the open scrub, extending —the Commander and one man in the centre, with one man ahead, and two men on each flank.

Suddenly the centre point was fired on from the scrub close ahead, and about twenty Turks on foot showed themselves shortly afterwards and opened fire on the patrol.

The officer and two centre men charged direct into the brown, and the two left flankers came in simultaneously on the enemy's right.

The two right flankers, one of whom was an experienced N.C.O., galloped round the enemy's left, and took him in rear, upon which the

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Turkish patrol surrendered. No sooner did this happen than the enemy's guns and machine guns opened fire on the patrol from the heights.

Nothing daunted, the patrol marshalled eighteen prisoners and brought them in to the picket two miles distant, followed up by machine-gun fire while within range, and by artillery fire the whole way.

This incident is given in detail as showing the result of instant decision, boldness, determination and resource, and may fairly give one to think " What should ' A ' do ? "

The officer received the D.S.O., and each man of the patrol was decorated by the Commander-in-Chief.

Although the cavalry were engaged in other minor enterprises throughout the summer and early autumn, patrolling, as described above was carried out during the period the cavalry remained in the Valley ; consequently practically every officer, N.C.O. and man had been " shot over," and had attained the highest standard of individual efficiency, with a corresponding gain to " morale," and a sublime confidence in the efficacy of the *arme blanche.*

The results of this training were made manifest when the great break through occurred in September, 1918, and the Turkish Armies were rounded up and destroyed. Every man was a " live " man, knew his job and meant business.

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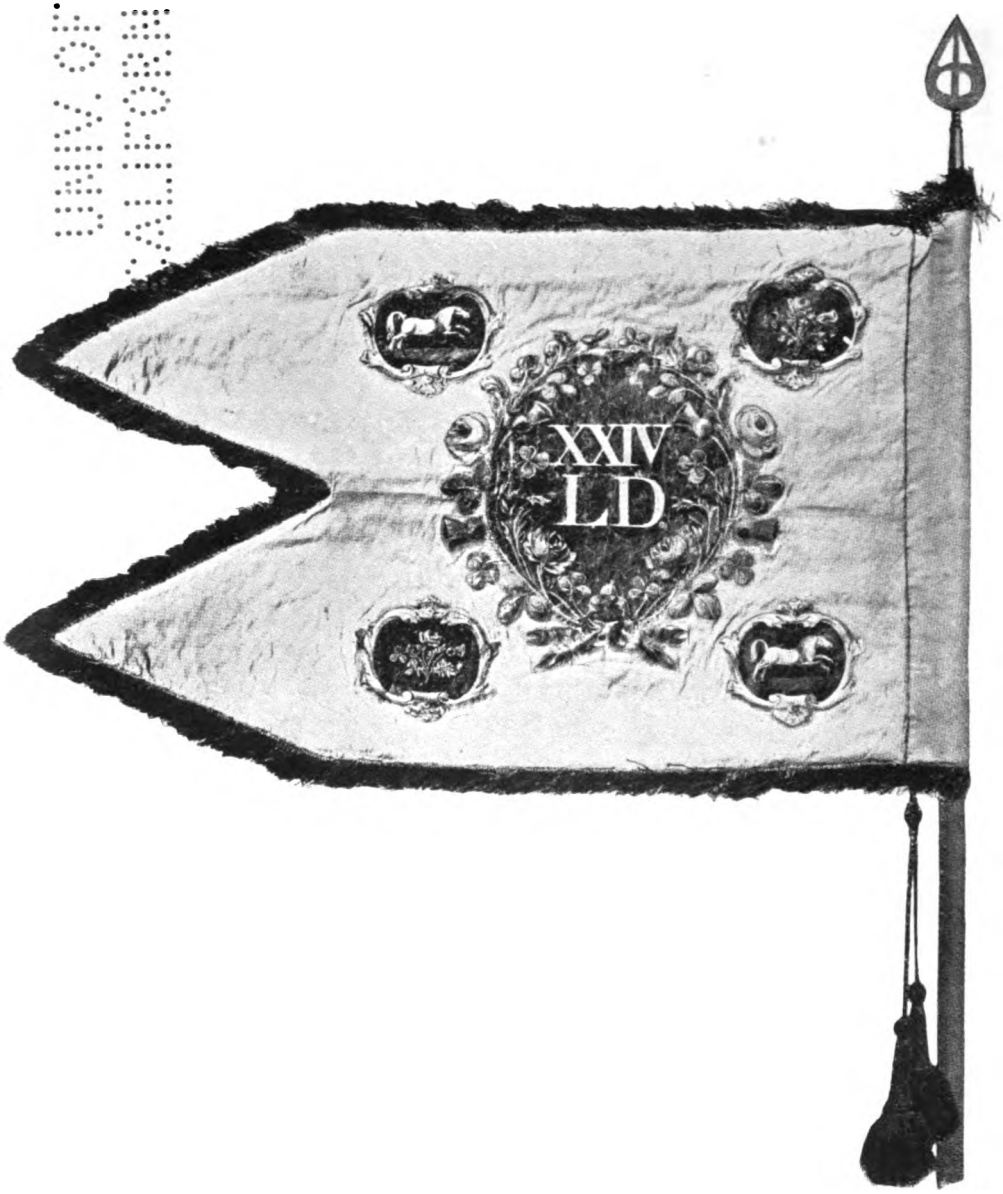

A SQUADRON GUIDON, 24th LIGHT DRAGOONS.

By kind permission of Major S. G. Everitt, late Royal Welsh Fusiliers.

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24th LIGHT DRAGOONS.

THIS regiment was raised in 1795 by Major-General Wynter Blaithwayte as the 27th Light Dragoons, the "Letter of Service" being dated April 1st of that year. It is ordered to "consist of 6 troops, with 4 serjeants, 4 corporals, 1 trumpeter, and 71 private men in each troop, besides the usual number of commissioned officers."

The "Beating Order" is of the same date. The nucleus of the regiment was formed by drafts as under :—

5	corporals,	43	men from	1st Dragoons.
4	,,	41	,,	2nd Dragoons.
4	,,	65	,,	11th Light Dragoons.
5	,,	69	,,	25th Light Dragoons.

These details were ordered to Gloucester in April, 1795. In June of that year the regiment was at Froome, and afterwards at Bath, in July at Cirencester. In October it was at Weymouth, and afterwards half the regiment was stationed at Blandford and Bryanstown, and the other half at Dorchester and Weymouth.

It served at St. Domingo, at the Cape, and with Sir Arthur Wellesley in India, being present under General Lake at the battles of Allyghur (September 4th, 1803) and Delhi (September 9th, 1803) of the Mahratta War. In 1804 the regiment was renumbered as the 24th Light Dragoons.

It took part in the war with Holkar (1804-5), and on April 2nd, 1805, was in action for the first time under its new number, when Lord Lake,

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after a night march, fell upon and surprised Holkar's troops near Bhurtpoor.

The regiment took part also in the campaign against the Pindarees in 1817.

For its services in India the regiment was permitted to bear the badge of the elephant, circumscribed "Hindoostan."

Being abroad, the regiment escaped for a short time the reduction of the Army after the battle of Waterloo.

The 24th Light Dragoons appear in the Army List of December, 1818, with orders to be disbanded.

The following Horse Guards letter, dated May 4th, 1819, finally orders it to be disbanded :—

"Horse Guards, May 4th, 1819.

"SIR,—I have the Commander-in-Chief's commands to notify that the Prince Regent has been pleased to order that the 24th Light Dragoons shall be immediately disbanded.

"I have, &c.,

"HARRY CALVERT, *A.G.*

"*To General Loftus, Colonel of the 24th Light Dragoons.*"

The regiment was, on its return from Bengal, disbanded at Chatham on May 24th, 1819.

That the good services of the regiment were appreciated is shown from the following Horse Guards letter of June 4th, 1819 :—

"Horse Guards, June 4th, 1819.

"SIR,—I have the honour to transmit herewith for your information the accompanying copy of a general order issued by the most noble the Governor-General in Council on the occasion of the 24th Light Dragoons being ordered for embarkation for this country for the purpose of being disbanded; and in assuring you that it has been highly gratifying to the Commander-in-Chief to have received so honourable a testimony of the meritorious conduct of the 24th Light Dragoons during the period of its services in India, I have it in

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command to add that H.R.H. laments very much the reduction of so valuable a corps.

"I have, &c.,

"HARRY CALVERT, *A.G.*

"To General Loftus, Colonel of the 24th Light Dragoons."

The uniform of the regiment was blue; facings, light grey; lace, gold.

The squadron guidon, as illustrated, is of silk, painted.

Carter, in "Medals of the British Army," states that an honorary standard was presented to the regiment during its stay in India by the East India Company.

N.B.—Squadron guidons were abolished on August 18th, 1858. In the R.U.S.I. Museum is a trumpeter's coatee of the 27th Light Dragoons of about 1800.

S. G. E.

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A FRENCH VIEW ON CAVALRY AND ARMOURED CARS.

THE June number of the *Revue Militaire Générale* of France contains a well reasoned article by Squadron-Leader Bloch, under the heading of " Modern Cavalry," with special regard to the combination of assault cars (armoured cars) with cavalry.

He begins: Considering the part played by cavalry throughout the last war, and under the influence of the impression provoked by the brilliant progress of mechanical apparatus, many worthy enough persons have pronounced a *finis equi*, which they consider conclusive and due to the definite failure of the mounted arm.

Others, on the other hand, take into consideration the special conditions of the campaign which so soon presented the characteristics of siege warfare, and which, owing to the Armistice, did not attain to a period of decisive achievement. These range themselves against the first opinion and rest their arguments, in favour of their own point of view, on events in Macedonia, Syria, and even Italy.

Where is the truth to be found?

If the cavalry intended to stick in its old groove during the evolution of the other arms, certainly the judgment of the partisans of the first thesis would be unanswerable.

But if, on the contrary, cavalry adapts itself to the new era, observes the continual progress of science, utilizes for its own purposes to the utmost those new mechanical devices, the aeroplane and, especially, the armoured car—capable of helping but not of taking its place—then cavalry is bound to play in future conflicts a part both as important

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and as efficacious as in the past centuries of the brilliant heritage of French chivalry.

After discussing the main tasks of cavalry, he concludes that whippets, transported infantry, cyclists, aircraft have been proved incapable of taking the place of the mounted arm.

He enters into the requirements of the cars as to speed and protection. Of armament he says: Each car will have a turret armed by a machine gun or a cannon. In addition, the driver will have an automatic weapon.

There is no reason why the infantry machine gun should not be used for these cars. As to the field gun, it should be large enough, about two-inch bore, and have the requisite muzzle velocity to engage successfully hostile armoured cars if necessary.

As to organization, each cavalry division would comprise a battalion of cars, which would be formed on the basis of three companies of cars, one light section for supply and repairs.

The company would contain four sections and one echelon. Finally, the section would comprise three cars: two machine-gun cars and one gun car (*char-canon*).

On the subject of tactics, he continues: Whatever progress may be made in its manufacture the armoured car will remain for many a long day a comparatively rare and delicate instrument. It will therefore be essential to employ the cavalry cars with judgment, and to avoid exposing them or wearing them out for feeble results.

Thus they must not on principle be used on small reconnaissance duties for gaining touch with the enemy or, generally speaking, for such duties as would place them at the disposition of parties of cavalry weaker than a squadron.

General principles: the combat unit is the *section* of cars. The section is placed, for tactical purposes, under the orders of the cavalry unit which it is to support, never weaker than a squadron.

The usual formation in action of the section is with the two machine-gun cars on the flanks of the gun-car which contains the commander of the section.

The car *company* is placed, on principle, at the disposal of the cavalry brigade.

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The commander of the *battalion* is under the orders of the general of the division.

Mounted Action.

The support which the cars can give to cavalry would be of two kinds:

(*a*) To help the progress of mounted troops; or

(*b*) To co-operate in a general action.

(*a*) The cars move with the main body of the troops which they are told off to. If the patrols report a nest of machine guns forbidding the advance, where a turning movement is not made, the cars push forward and either destroy the nest or neutralize it temporarily while the cavalry pass.

If the enterprise fails, if the resistance is serious, and it is impossible either to force or turn the position, dismounted action becomes necessary.

An escort of a troop is always told off to every car section. Its task is not to always stick close to the machines, which would be impossible, but

(1) To use fire or shock action against any attack made on a car which has stopped, or against any isolated anti-tank gun which is suddenly unmasked;

(2) To ensure keeping touch between the cars and their main body of cavalry;

(3) If necessary to reconnoitre the course for the cars, and to give information to their commander.

It should be observed that the employment of cars described above has no analogy in the infantry combat. We have not so much to conquer and occupy the ground as to pass through.

(*b*) Cavalry, of course, acts mounted against cavalry, demoralized or surprised infantry, against artillery on the move or isolated. The cars will accompany them with the object

(1) Of protecting them by rapidly intervening against any machine gun.

(2) To augment the moral and material effect of the attack by their fire or progress.

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It will generally be advantageous to reserve one or more complete sections for the service of protection.

One escort troop may be given to each of these.

When the cavalry deploys, the place of the sections with it is generally on a flank, in refused echelon.

The place for the protective sections must vary according to ground.

Conclusions.

Cavalry and cars must work in combination. Both can manœuvre rapidly across country. The conditions necessary for the employment of cavalry are eminently favourable for car action, because they generally comprise an absence of artillery in position, which is the great enemy of the assaulting car.

The car by subduing machine guns helps cavalry to once more put into practice its invaluable traditional tactics.

The only disadvantage of such cars is the wear and tear to material which was found to result during the War. But it should be noted that the assault cars were then only provided with means of propulsion for soft ground; the deterioration on roads was consequently very rapid; on the other hand, in the later stages of the War, they moved in action across chaotic ground, which would not be the case in ordinary cavalry operations; moreover, the cars had been built in haste and there was no time to thoroughly train the crews.

We therefore believe that a cavalry car, carefully designed and well piloted, built to resist wear and tear, is quite capable of being constructed with the essential qualities of endurance, strength, speed and adequate radius of action.

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XVI.—The Problem of Internal Defence.

The problem of internal defence, or the maintenance of civil order and legislation, is, from the tactical point of view, a simple one, for the opposition which is likely to arise is usually badly organized and the rioters or rebels badly armed. So much so is this the case that small forces of soldiers, as long as their ammunition holds out, have frequently proved themselves to be invincible even when faced by as many as a hundred times their own strength in numbers.

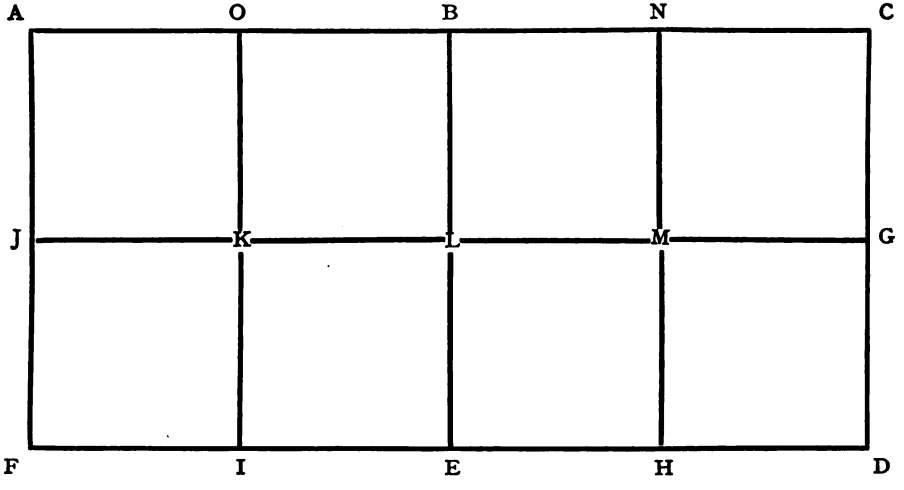
Police work, however, presupposes rapid movement of these small bodies, and, therefore, requires that mobility be added to offensive power and protection; for revolutions are quelled by breaking up hostile assemblies and so preventing their solidification into organized form. The first step in order to quell a revolution is to keep it fluid or mobile—in other words, to deny it stability, without which it cannot for long exist.

The only satisfactory way to carry this out is to organize dispersion of power prior to the emergency, and this is best accomplished by establishing over the country in question a series of police posts which are sufficiently stable to withstand attack and sufficiently mobile to assist each other.

Such a system of tactics was made use of during the last years of the South African War, when great tracts of country were divided up by a network of block-house lines, the spaces between which were swept by mobile columns; a similar system was used by Hoche in La Vendée in 1792-93.

The following is purely a theoretical example of the above tactics in order to illustrate them. Supposing that a rectangular area of country 600 miles long by

Diagram 1.



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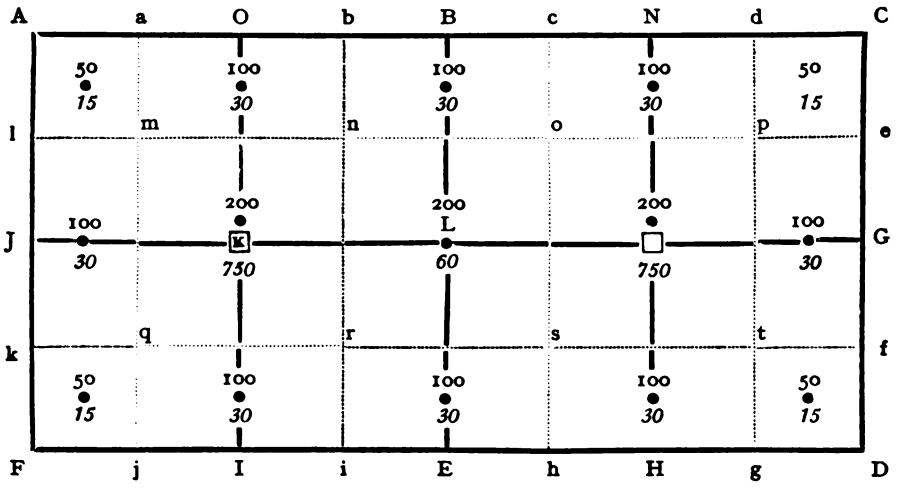
300 miles wide requires policing, what will be both the most economical and efficient methods of doing so should Cavalry and mechanical personnel be allotted for the purpose ?

Diagram 1 shows an area of country 600 miles long and 300 miles broad, namely, the rectangle ACDF. This rectangle is divided up into two squares ABEF and BCDE ; each of these squares has a side of 300 miles and is divided up into four small squares.

The strength of the police force now required can be roughly estimated as follows : A mobile group is established at each of the letters shown on the diagram, and a stable reserve at K and M. This gives a total of fifteen mobile groups and two stable reserves.

Diagram 2 shows the second evolution of this system and is suggested for a country such as Mesopotamia, which at present is in a state of considerable unrest.

Diagram 2.



The same area of country is shown, but it is now split up into squares and rectangles marked in dotted lines. In the centre of each of these squares and rectangles is placed a mobile group shown by a black dot, and at K and M stable reserves shown by a small square. In order to arrive at some basis of calculation, a force of fifty cavalrymen is taken as being sufficient to patrol the smallest square on the diagram, for a rectangle twice the size of this square 100 are allotted, and for a square four times the size of this square 200. We therefore find that the whole area ACDF is divided up into three rectilineal figures, namely, ACel, lefk, kfDF. These figures contain the following mobile forces :—400, 800, and 400, and, in principle, this

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organization permits of a strong backbone of police running through the centre of the country.

The above comprises the mobile element, but as this mobility should be reinforced within itself by a certain amount of stability, it is therefore suggested that two armoured cars, preferably of a cross-country type, be added to every fifty men, except in the cases of groups K and M. This will give the direct support of forty-eight armoured cars to the cavalry.

At K and M, the two central mechanical striking forces are established with the object of supplying stability to the Cavalry outpost organization. These forces might be organized as follows :—

(1) One company of light tanks, 12 machines, 140 personnel.
(2) One company of armoured cars (wheel or cross-country), 12 cars, 140 personnel.
(3) One battery of mechanical gun carriers, 6 guns, 90 personnel.
(4) One flight of aeroplanes, 6 machines, 80 personnel.
(5) One company of cross-country tractors, 12 machines, 100 personnel.
(6) One machine gun and trench mortar company, 12 machine guns and 6 trench mortars, 200 personnel.

Total fighting personnel, 750.

The combatant personnel of the entire police force would, therefore, consist of the following :—1,600 cavalry and 1,860 mechanical troops equipped with 24 light tanks, 72 armoured cars, 12 field guns, 12 aeroplanes, 24 cross-country tractors, 24 machine guns and 12 mortars—infantry, additional aeroplanes and administrative troops being added as required.

Under normal peace conditions the mechanical columns would remain stationary and the whole of the area ACDF would be patrolled by the cavalry groups. Should however, rebellion break out which any one or more of the cavalry groups may be unable to suppress, these would at once stabilize themselves in their defended posts and the mechanical columns would move out and become the mobile element of the police organization. As the rebels are unlikely to possess weapons which could impede the movement of these armoured forces, their effect should prove decisive.

The object of a police force being to maintain order and to safeguard life, the means to be adopted towards this end, even in a grave emergency, should always, as far as possible, exclude bloodshed. A riot or a rebellion should always be viewed as a social dementia or delirium ; the rioters themselves should be looked upon as sick people and not as murderers and brigands. If this be done, a moment's consideration will cause it to be appreciated that the destruction of life is seldom a permanent cure. In an uncivilized community, should some dread disease such as smallpox break out, it may be economically right to kill off the afflicted and so prevent the disease spreading, but this is a barbarous process, for though it kills the disease it simultaneously kills the sufferers. In a civilized nation the object of medicine is to save the sufferer from death ; this also should be the object of police work if rebellion be looked upon as a social sickness, consequently the shooting of the rebels should be the last act of the policeman or police soldier.

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The science of chemistry has shown, during the Great War, what a potent weapon has been evolved in the form of lethal gases. These kill, but there is no reason why gases should not be produced which temporarily anæsthetize or incapacitate human beings—lachrymatory and sneezing substances already exist. It is, therefore, suggested, in order to minimize bloodshed, that the armoured cars and tanks of the entire police organization be equipped with non-lethal gas projectors and that the men who operate these machines be looked upon as the anæsthetists of the rebellion rather than as its surgeons. This is mentioned here as the use of gas as a means of increasing tactical mobility will be further considered.

XVII.—The Nature and Requirements of Small Wars.

The difference between small wars and police work is one rather of name than of work; both have as their object the maintenance of order, the first in territories usually lying outside the jurisdiction of the British Government and the second within this sphere of authority.

Looking back on the small wars of the past, we find that in character they may be classified according to the physical nature of the countries in which they most frequently occur, namely :—

(1) Mountainous country.
(2) Desert land.
(3) Bush country.

Generalizing the main characteristics which are coincident with most small wars, they are found to be :—

(1) A lack of communications.
(2) A badly equipped and ill disciplined enemy.
(3) An unhealthy climate.
(4) A lack of local supplies and water.

To summarize still further, it may ultimately be said that small wars consist in "overcoming natural difficulties in order to chastise unorganized and ill-armed savages or brigands." The enemy himself is usually beneath contempt, but nature in small wars has frequently proved omnipotent; consequently the solution of the problem is not to be sought in men or weapons, but in movement. Any weapon that our men may be armed with will almost certainly be superior to the enemy's; but unhindered as he is by the paraphernalia which a civilized force requires for its welfare and subsistence, his leg-power is frequently so superior to theirs as to render inoperative the use of whatever weapons they may carry.

Concerning this problem one thing is certain, and this is that civilized leg-power cannot compete with uncivilized, and throughout the history of small wars, from the earliest ages to present times, the principle of "setting a thief to catch a thief" has frequently been adopted. When this has not been possible, small wars have generally been won by seizing whatever communications may exist, by picketing these and so denying their use to the enemy. Small wars, even more so than great wars, are wars of communications; this being so, why not cease basing them on

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leg-power, and in its stead substitute machine-power as typified to-day by the Tank, cross-country tractor and aeroplane.

Accepting this suggestion as eventually feasible, if not immediately so, it is interesting logically to deduce the simplifications and economy which will be effected by the introduction of machinery in the three main small war theatres, mountains, desert, and bush land.

In mountainous countries the main characteristics of past operations have been as follows :—

The dissatisfied theatre is entered by one or more of the natural avenues of approach, usually river beds along which an indifferent road has been constructed. The force operating consists of a small fighting advanced guard, a lengthy supply train and a considerable force of men to protect it. This protection is normally guaranteed by " crowning the heights," that is, by picketing the summits of all positions of vantage within rifle shot of the column wending its way along the valley. This elastic square of infantry, which is drawn round the supply train both by day and by night, at varying distances, is only necessary because the men and animals in the valley are pervious to bullets ; were they impervious it would be totally unnecessary. This imperviousness can at once be obtained by replacing infantry by Tanks and pack mules by bullet-proof cross-country tractors.

Picture a mechanical punitive expedition against Kabul. The distance from Peshawar to this town is about 150 miles. Moving at four miles an hour for ten hours a day, Kabul can be reached in five days. The Afghans crown the heights as the column approaches, but gain no further advantage than an unquenchable thirst, which sooner or later will drive them once again back to the valleys. Road clearing Tanks equipped with " grabs " lead the advance in order to clear boulders and other obstacles from the road ; bridging Tanks follow, then the fighting machines and the supply tractors. Arrived at Kabul, the expedition is supplied by aeroplanes which, with impunity, can ferry supplies through the air from the base and bring back the sick and wounded to the hospitals.*

No communications need to be maintained ; the whole operation is really too simple to be considered as partaking of warfare. Is it feasible ? No, not as yet, but it can be made so within a comparatively short period. Is it worth instituting ? Yes, if lives, man-power, money, and time are worth economizing.

In desert warfare, what is the problem ? Not the enemy, who is armed with anything from a match-lock to a Mauser rifle, but water. Water regulates the operation, and as frequently it will not drop from the clouds unless we use aeroplanes, why not make a certainty of it dropping by using them ? In desert warfare, if the wells are twenty miles apart, the marching becomes difficult, if forty, an extensive train of camels has to be used.

In 1885, Sir H. Stewart took twenty-one days to cross from Korti to Gubat,† a distance of 180 miles ; a fast moving Tank would take forty-eight hours and an aeroplane only one and a-half. In marching order, a man carries one and a-half

* All field hospitals will disappear from the front and be relegated to the base.

† The chief difficulties of this expedition were those connected with supply.

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pint of water, a mule sixteen gallons and a camel thirty-two gallons; there is no difficulty in constructing a Tank which will carry 1,120 to 2,240 gallons, or an aeroplane which will carry 224 to 336. The whole problem is so simplified by machinery that it again practically ceases to be a question of warfare at all. A few aeroplanes would have saved Gordon, and El-Teb, Maiwand or Isandhlwana could each have been turned into decisive British victories by a single Tank.

The last of the three types of small wars—bush fighting—forms a rather more intricate problem, as the nature of the country may frequently be difficult for roadless traction. Ordinary bush and scrub land should prove of no hindrance even to existing types of machines; dense forest land, however, forms a real obstacle, especially if it be combined with swamps.

The problem in bush warfare is very similar to that already dealt with in mountain warfare, for it resolves itself into the question of how to protect the administrative services. Supply trains, again, have to be protected by means of an elastic square of men moving forward through the jungle, sufficiently far from the carriers and pack animals to prevent these being pelted with pot legs and chopped up telegraph wire. A Tank needs no such protection and its supply by aeroplane should generally be feasible even if the country be covered with thick bush.

In each of the three above types of small wars one outstanding tactical deduction may be made if man-power be replaced by machine-power, and this is that:—

Small wars will cease directly an ill-armed antagonist is denied the support of natural obstacles.

Machinery, if properly applied to the problem, eventually will prevent small wars occurring; it in fact becomes a radical cure for what with the British Empire has been for years a chronic disease.

XVIII.—The Co-operation of Cavalry and Tanks in Small Wars.

The conditions of Cavalry and mechanical police work as outlined in the preceding Section and the organization suggested give certain definite clues to the methods of Cavalry and Tank co-operation in small wars. It has been shown that Cavalry should depend on its own mobility as long as this is possible and, in order immediately to reinforce this, that armoured cars (wheel or cross-country) should form part of every Cavalry unit; that directly this mobility begins to wane or become uneconomical, it should be strongly reinforced by the more powerful mechanical weapons.

In small wars the same basis should be adopted, but, before entering upon the detail of the necessary difference which mobile warfare requires, the administrative and tactical limitations of Cavalry, as governed by the normal conditions of small wars, should carefully be considered.

The limitations of Cavalry have already been discussed in Section XIV, and the conditions of small wars in Section XVII. It is therefore only necessary to equate these, a simple calculation, for it will at once be seen that x is the "administrative difficulty of supply," chiefly forage and water.

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Omitting bush warfare, which is most unsuitable for Cavalry and far more easily carried out by Infantry, hill and mountain warfare exclude the obtaining of forage, desert warfare excludes both forage and water, and though on fertile plains both forage and water may be abundant, the collection of the former and the seeking of the latter not only take up much time in foraging but create disorder and entail irregular feeding. Cavalry for these types of warfare should be far more self-supporting administratively, but, as at present equipped, their forage carts and water carts form a serious impedimenta. A forage cart carries fifteen cwt. of corn and hay and a water cart 140 gallons of water, and the animals which draw these have to be fed, so that every extra animal added to the Cavalry transport becomes an immobilizing factor.

Replace these innumerable animals, draught and pack, by cross-country tractors, small ones for hill warfare and large ones for plain warfare, then the mobility of the Cavalry rises out of all comparison to its present state. For instance, take the question of water; a horse in a hot climate requires, say, ten gallons daily; there are 224 gallons to a ton of water, and there should be no difficulty in building a cross-country tractor which will carry ten tons, sufficient water for 224 horses for one day.

The tactical difficulties are mainly connected with the elements of movement and protection, weapon power is nearly always in favour of the civilized force, the enemy depending on harassing fire rather than on decisive action. In hill warfare this latter condition is nearly always the case. In this type of fighting, Cavalry are generally useless, unless the valleys are extremely broad or the passes lead to open tracts of country, when the fighting will approximate to plain warfare.

In plain warfare, such as might occur in Persia, Mesopotamia or the Soudan, co-operation becomes feasible, and is but an adaptation of the police organization already described. The Cavalry should act as the elastic protective square within which the main forces and the transport is moving. If the transport be based on the lightly armoured cross-country tractor, it will need very little close protection, so that Tanks and cross-country armoured cars will be able to form an unimpeded central striking force.

In close touch with the Cavalry flank rear and advanced guard patrols, small groups of cross-country armoured cars should be posted in support, their duty being to move forward and break down any hostile opposition with which the Cavalry may meet. If this opposition be severe or the opportunity for decisive action arise, these combined Cavalry and mechanical groups should avoid a frontal engagement, and, instead, move outwards, manœuvring towards the enemy's flanks and rear. Meanwhile Tanks should be detached from the main body to deliver, at top speed, a frontal attack on the enemy, under cover of which the flanking groups should close in on the enemy's wings or on his line of retreat.

In jungle and scrub fighting, the elastic square should be mechanical, the Cavalry being concentrated within it. In this type of warfare the enemy frequently attempts to fire on the column at close range, as was the case with Braddock's force on the Monongahela river in 1755. A few years later Bouquet, who commanded the 60th Royal Americans, solved this problem in tactics in a very ingenious manner

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by breaking the Red Indians' circle of fire by a series of Infantry charges radiating outwards. These small forces of men were closely followed by Cavalry, who, passing through the gaps thus created, wheeled inwards and took the fragments of the enemy's riflemen in flank. In the present case, when, in jungle warfare, concentric fire is opened by an enemy, certain of the Tanks, forming the elastic square and detailed for such an operation beforehand, should similarly charge the enemy and be followed either by other Tanks or Cavalry, which should operate as Bouquet's Cavalry did.

Another situation which frequently arises in guerilla warfare is village and wood fighting. If the wood in question be negotiable by Tanks, in both cases the Cavalry and their accompanying cross-country armoured cars should avoid any direct attack, leaving this to the Tanks; they should again move round the enemy's flanks and cut off his line of retreat. If a village is to be attacked, Tanks should move through or over the village which, if of the normal Oriental type, will offer little resistance to their progress, and drive the enemy into the Cavalry's and armoured cars' fire.

In all the above cases it will be seen that the least stable arm is given the most mobile duty, and that the breaking down of resistance is left to the more heavily armoured Tanks. Ultimately, as long as Cavalry are an economic arm to use in small wars, their chief utility will be to demoralize the enemy, not by rifle fire, though this may frequently have to be employed, but by reducing the morale of the enemy by threatening his flanks and rear. The charge with the *arme blanche* in small wars may still be possible, but it is thought that this type of fighting will seldom prove as profitable as machine gun or automatic rifle and pistol fire, especially if Cavalry be employed as outlined in this Section.

XIX.—The Nature and Requirements of Great Wars.

At the present moment and for some little time to come, the military organizer will be faced with the difficult problem as to his objective. What is his goal? To what military end are his endeavours to be directed? Without some definite objective his work can scarcely be economical.

Military organization is founded on tactics which, as we have already seen, are a combination of movement, protection and weapons on the battle-field; on these three must his endeavours be first concentrated, and especially on movement, upon which the remaining two elements of war so greatly depend.

Movement in war is becoming more and more mechanical, consequently the first step in our solution should be based on the mechanical factor.

Once the problem of movement is provided with a goal, our next problem is how to protect men when in movement, and, as mechanical power enables direct protection by armour and anti-gas appliances to be carried, the second step should be founded on these means.

Ultimately the problem resolves itself into how most effectively can use be made of these protected men, and as mechanical as compared to muscular energy enables more powerful weapons to be carried, we should be prepared to meet and hasten this evolution and so complete the third step in our synthesis.

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Our present obsolescent organization cannot, however, be changed like an old coat; this would entail a revolution, the ultimate end of which would be an anæmic organization enfeebled by a preceding "nakedness" or chaos. We, therefore, must be prepared for a steady evolution, for an army, as it has already been shown, is not "a thing in itself" but part of a nation and consequently influenced by national requirements, prejudices, and interests.

At the present moment our main national military requirement is imperial stability, which, in itself, prejudices any revolution, any sudden change from muscular to mechanical warfare; this should, however, in no way deter us shredding away the old coat as fast as we can weave the new one.

Besides the influence of these requirements, at the present moment there exists in Europe an abnormal military situation. The Great War, once completed, was followed by a somewhat frenzied period of demobilization, which will result in every European Power, for the next few years, being totally unprepared to wage another war of a similar magnitude. We therefore find that the military situation indicates that if the next great war should break out from three to four years from now, it will be a sudden catastrophe entailing the use of a somewhat jumbled and disorganized mass of muscular and mechanical units, the latter being of very varied powers; if, however, it should break out after a prolonged period of rest and reorganization, that in detail it will be totally unlike the Great War of 1914-1918.

In the event of the first eventuality occurring, Cavalry, as they probably will still exist as part of each army's organization, will have to be reckoned with and the direction of their utility will most likely approximate to that of 1914-1918; not that such use would necessarily be the most efficient but that time will have been insufficient to eradicate the old dogmas and replace them by newer doctrines.

If the above forecast be sound, it would appear that the next great war, should it take place before 1925, will commence with a mobile deployment, be followed by a static or semi-static period of preparation, during which deficiencies in personnel and material will be made good, and will end by highly mobile actions brought about by mechanically propelled engines of war.

During the first period the strategical use of Cavalry will probably be possible; during the second, their horses may be useful in order to effect tactical concentrations of mounted machine gunners opposite such parts of the static front as it is intended to raid with Tanks and aeroplanes and, during the third, that it will to all intents and purposes cease to be profitable even in the pursuit and that consequently Cavalry will either take to cross-country tractors to move them forward, or to Tanks, or that they will become a mere battle-field police force, and if a cross-country motor-bicycle be evolved by this time, that even then their horses may disappear.

It is not proposed here even to guess at the nature of a great war of ten to twenty years hence; this will be left for another Section of this study. The immediate problem, therefore, is: can Cavalry and Tanks co-operate in a great war within the next few years, and, if so, how?

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XX.—The Co-operation of Cavalry and Tanks in Great Wars.

Accepting the inferences regarding the nature of an early great war, as outlined in the preceding Section, the question arises how best can co-operation be effected between Tanks and Cavalry during the strategical deployment of an army and during the static or semi-static deadlock which will probably follow it?

Whenever this war breaks out it must first be fully realized that the conditions under which it will be waged will in any case be totally unlike those of 1914; the chief difference, even if this war broke out to-morrow, would be the number of machine guns which would be met with. Whilst in 1914 a British Division possessed but twenty-four of these weapons, to-day it is likely to possess ninety-six, to which must be added at least 432 Lewis guns, in all making 528 automatic fire weapons.

The possibilities of this enormously increased fire power is in itself a sufficient reason to doubt whether Cavalry, even strategically, will ever again accomplish what they did in 1914. To this must be added the fact that since 1914 the evolution of the aeroplane has greatly modified the protective duties of Cavalry, protection being considered under the two headings of strategical, *i.e.*, penetrating the enemy's intentions, and tactical, *i.e.*, the safeguarding of our own.

The first consideration which arises as regards Cavalry itself is a question of armament. Are the lance and sword the most effective weapons to overcome the machine gun on land or in the air? There can be but one answer to this; no, the only suitable Cavalry weapon, at present known, is the machine gun itself, which in the form of the light machine gun or automatic rifle can be carried by Cavalry. Equipped with this weapon Cavalry may be able to out-manœuvre the Infantry machine guns and by concentrating fire on them destroy or silence them.

The second consideration is one of formation. Will formations even as large as a squadron be suitable in face of machine gun fire from ground or air? Will not the future formations tend to become smaller, the squadron replacing the regiment and the troop the squadron as the tactical units? A difficulty arises here: Will Cavalry troops, even if armed with automatic fire weapons, possess sufficient stability to manœuvre successfully against the Infantry machine gunners, who will offer smaller targets? Will it not be necessary to reinforce them by cross-country armoured cars? If so, and a few years permit of the change, should not each troop of Cavalry be accompanied by cross-country armoured cars? If so, how many? In Sections XVI. and XVII. two were suggested, but then the armament of the enemy was negligible. Should not four now be added? If so the Cavalry squadron of the near future might consist of two troops of forty-eight men each carrying sixteen automatic fire-arms and two troops of cross-country armoured cars each consisting of four machines. It is impossible to say definitely what the eventual organization should be, but, if the above be accepted, a working basis will be formed for further speculation.

The strategical action of Cavalry might then approximate to the following: Directly war is declared a screen of Cavalry troops, each troop closely followed by a troop of armoured cross-country cars, would invade the enemy's territory,

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these being followed by an independent force of Tanks ready to reduce any determined resistance which the advanced screen might meet with. The horse and mechanical troops would work hand in glove, the horse moving forward until resistance was met, then halting, one cross-country armoured car moving outwards on either flank of the resistance and two attacking it in fromt, followed by the horse troop directly resistance began to waver. Should the enemy's Tanks be met with, then the screen must either manœuvre for time or fall back so that the independent Tank force may meet them in open battle.

In this organization the duties of the horse troops are mainly strategic and of the armoured car troops tactical. The former will avoid tactical objectives and seek information; the latter will safeguard this seeking, supplying the horsemen with stability of action. If tactical points, bridges, etc., have to be attacked it is the cars which will attack them and the horse troops which will make them good. The operation in principle is simple but it will entail most careful timing and co-operation in carrying it out. This co-operation cannot be improvised on the battle-field. It will take a considerable period to develop and will demand a close spirit of comradeship between the horsed and mechanical personnel, as well as an intimate knowledge of the limitations of the horse and the armoured car.

In the static or semi-static period of a great war, this co-operation becomes much more difficult, so much so that in all probability it will prove unfeasible. It has already been pointed out in Section III. that in the Sixteenth Century attempts were made to stabilize Cavalry by mixing with it Infantry units and that this combination proved a clumsy one because the ruling factor was the walking pace of the Infantry. To mix Tanks and Cavalry in an attack would appear equally clumsy, the ruling factor here being not movement but direct protection by armour. Should, however, this type of attack be insisted upon, a reverse procedure to that of the strategical exploitation would appear necessary. The independent Tanks acting as heavy Cavalry might assault the enemy's position and, emitting great clouds of smoke, make for the position to be seized. Under cover of these clouds the horse troops, closely protected by their armoured escorts, might move forward and take over the position captured by the Tanks in order to enable their crews to rest pending consolidation or the next bound.

In this type of action the one advantage the Cavalry troopers possess is that they can dig in, whilst the Tank crews cannot do so. To keep Tanks out in the open might result in heavy losses and until Artillery becomes tractor drawn it will be difficult to obviate this, but once this is the case it would be possible by limited raids of the above nature to deliver a series of severe punches on the enemy's body preparatory to giving him the knock-out blow.

The knock-out blow in warfare is the act of annihilation, and, as already stated, it is not considered, should the next great war be in any way a prolonged one, that Cavalry,as we to-day know them, will play an economically useful part in this crucial act. Legitimately it might well be asked by the military critic whether Cavalry is even a suitable arm to use in the initial exploitation let alone in raids against a defended line. True, the armoured cars and Tanks may be able to provide stability

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to the horsemen they are escorting, but is not any advantage accruing from this more than nullified by the loss of mobility in the mechanical arms due to this very act? If this be so, a few years hence, and there can be little doubt of its possibility, will not this hindrance to mobility grow greater and more pronounced as the evolution of mechanically propelled weapons accentuates more and more the limitations of the horse?

In a great war, comprising a static period of one or more years, the evolution of Tanks during this period will be so great as to make any attempt to link the horse to the petrol engine almost as difficult as the linking of the armed merchant cruiser to the battleship. In 1914 we sent out on to the high seas unarmoured merchant cruisers just as on land we sent out in front of our army Cavalry regiments. Before a month of naval warfare was out the lesson had been learnt; on August 28th H.M.S. "Highflyer" sunk the great merchant cruiser "Friedrich der Grosse," and a little later on the armed merchant cruiser "Carmania" sunk the armed merchant cruiser "Cap Trafalgar," but had to beat a hasty retreat from before an approaching German cruiser. An A.M.C. can meet an A.M.C. because protection, mobility, and gun power are approximately equal, just as Cavalry, for similar reasons, can meet Cavalry; an A.M.C. could not meet a cruiser for somewhat similar reasons that Cavalry cannot meet Tanks. At sea the result of this was that each merchant cruiser was linked to a "fighting mate," much, as it has been suggested above, that Cavalry might be linked to cross-country armoured cars, but no one in the Royal Navy would ever have dreamt of suggesting that such a marriage could hold good in a great naval action. Had sufficient cruisers existed it is extremely doubtful whether armed merchantmen would have ever been used at all. If in the next great war sufficient armoured cars and Tanks exist, will it be economical or efficient, and the terms are nearly synonymous, to link Cavalry to Tanks even in the initial act of exploitation? The value of such a combination is more than doubtful and in the battle itself it is absurd—as absurd as to expect that a ship such as the "Carmania" would have been of any use at all at the battle of Jutland.

Cavalry do not only need stability to act, a stability which can in some degree be provided by Tanks, but Cavalry cannot give anything in exchange for this—neither mobility nor stability; at best they can only give eyesight, and is not this better provided by aeroplanes? The bargain is a one-sided one in which through the efforts to bolster up an obsolete or obsolescent arm the more efficient one is bound to suffer. These facts may be unpalatable to Cavalry soldiers but they must be recognized; science and progress demand recognition, so we will now turn to these and attempt to penetrate the veil of the future and see if there is no outlet to the impasse.

XXI.—The Influence of Science on Strategy and Tactics.

Granted that an army is part of a nation and not "a thing in itself," as it has usually been conceived as being, and granted that civilization is based on heredity—the past, and is governed by science, which is ever striving to solve present problems and so gauge future difficulties, logically it must be inferred that the army with

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the soundest heredity and the acutest scientific foresight must prove itself in war the most efficient unless opposed by a somewhat lower grade organization which totally outnumbers it. This contingency may arise, but its possibility is no criterion why we should think like Shylock in pounds of human flesh; rather should it be an incentive for us, as it was to Carlyle, to think in terms of what he called "inventive spiritualism."

The father of the present-day democracy, which embraces two-thirds of the civilized globe, is the steam engine improved by Watt in 1765. From this period to the present day, a little over 150 years, civilization has changed more completely than it changed from the neolithic age to the days of that great scientist and inventor. This change has been so prodigious that we accept it as the commonplace, and so unconsciously are our thoughts saturated by the effects of steam power, that it is practically impossible for us to imagine what the world and society were like before its practical application.

From the remotest ages to the present time warfare has been based on muscular power. This epoch may well be compared to the pre-steam period in industry; and, as in 1765, industry and manufacture were faced by a new problem, majestic in its immensity, so to-day is the soldier faced by one of almost equal magnitude, so great that but few can grasp even its outer fringe.

Are we to stand still because of the stupenduous task which confronts us? Did civil engineering stand still? It did not, neither could it, in spite of the phalanx of reaction which strove against it. Neither can we, even if we would. The muscular epoch is closing down; we may delay its departure, but we cannot ultimately prevent it.

How are we to clinch with this problem, so immense are its proportions? The answer is a simple one; we must think in the terms of the elements of war; these remain eternal in essence though outwardly their forms are ever changing.

War is a matter of men using protection, movement and weapons. The ideal army is one man, not a human stop-butt, but one man whose protection is so complete that he cannot be hit, whose mobility is so stable that he can move where he wills and whose weapons are so powerful that he can destroy any number of adversaries. This is the ideal, and, though it may never be attainable, it forms a sure direction to all progress. With two men arise complications in thought, and consequently in action, with three the problem becomes still more complex and with a million the side which wins is the side which works with the least chaos; efficiency has to be calculated in purely negative terms.

How are we to attain towards this ideal? Through the perfection of the three elements. History proves this irrevocably again and again.

What chance would Alexander have had against Hannibal, or Hannibal against Edward III, or Edward against Gustavus Adolphus, or Gustavus against Napoleon, or Napoleon against Lord Raglan, or Lord Raglan against Von Moltke, or Von Moltke against Oyama, and Oyama against Marshal Foch? None, because each of these generals was working with a lower grade in the elements of war—lower power of protection, lower power of movement, and lower weapon power. Even

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Lord Raglan, an indifferent general, would have beaten, in 1855, any army Napoleon, a supreme genius, could have led against him, because Lord Raglan's men were armed with the Minié rifle, which, though a muzzle loading weapon, was vastly superior to the flint lock of Napoleon's day.

In the short space of forty years the cylindrico-conoidal bullet has effaced the genius of an epoch. This does not mean that genius is useless, but that in former wars it was too restricted, consisting as it did in the manœuvring of an army, to which must now be added its equipment, so that its power to manœuvre and the genius of its leader may produce a 100 per cent. dividend victory at a minimum cost in one battle.

Volumes might be written on this subject alone, but, however numerous they might be, one and all they would have but one great lesson to teach, namely, that an army must improve its morale (men), its protections, its mobility, and its weapon power in order to survive in the struggle for existence in war.

Now as regards the future, two facts stand forth paramount: the muscular energy of man or horse cannot be increased beyond what we will denominate by $x/3$ and x; the mechanical energy of an engine can be increased from x to practically an unlimited number of x's. An Ancient Briton in a coracle, let us suppose, represented in energy $\frac{1}{3}$ h.p., to-day the engines of H.M.S. "Hood" develop 150,000 h.p.; they are in fact in energy equivalent to 450,000 Ancient Britons.

What does this increase in energy mean? It means an increase in power of protection and an increase in weapon power which cannot comparatively be calculated. The "Hood," or for aught that, a third-class destroyer, could steam through fleets of any number of millions of coracles with impunity, and curiously enough a ship like the old "Victory" at Portsmouth might have, in a similar situation, been unable to do so, for depending for her mobility on wind she might have been marooned amongst the coracles and starved out.

What steam has done for the navies of the world petrol is now doing for the armies. Once ships were dependent on wind, just as to-day armies are dependent on roads and railways, but the cross-country tractor can dispense with roads, in fact it can unshackle an army from the greatest restriction it has worked under, and is still working under, the restriction imposed upon it by fixed communications.

We see here an enormous speeding up of the strategical side of warfare, the possibility of moving over areas in place of along roads; this fact alone, logically, leads to a tactical speeding up of a similar nature; muscular warfare is, therefore, doomed if strategical mobility is to be based on petrol.

Muscular warfare is also doomed for other reasons. During the Great War of 1914-18, quick firing Artillery and machine-gun fire drove unprotected muscles to earth. To enable them to make good their inherent deficiencies in protection and mobility the mechanical engineer had to come to their aid. Not only will cannon and machine guns do this again, but another weapon—gas—has been evolved, which may prove even still more dangerous to muscle-moving troops.

During the Great War all sides solved the problem of gas protection more or less effectively, though men and horses as long as they have to wear respirators

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are practically immobile, so the protection adopted cannot be considered perfect. Because this was the case it should not be taken for granted that in a future war any side will possess even effective gas armour in the shape of a respirator, let alone one which will not reduce the mobility of the wearer. The science of chemistry is yet young and is growing at a Gargantuan pace; we cannot ever be certain that, say twenty years hence, Germany, or any other nation, will not possess gases which will pierce our respirators of that day, or gases which will attack not only the lungs of men and horses but their skins, clothing, equipment and weapons. What is the solution? A very simple one. The soldiers of the future must be protected from the outer air, just as submarine sailors are protected from the outer water. As the submarine encloses the sailor in a water-tight box, so must the Tank of the future enclose the soldier in an air-tight one. The Tank will then go into action, and when its air indicator denotes any change in the outer atmosphere, hatches will be closed, the crew will live on oxygen, and the engines, if necessary, will be run off accumulators. There is nothing impracticable about this, it is common sense. Such a machine could be produced by any large engineering firm in twelve months —its construction offers no insuperable difficulty; it is a far easier problem than the submarine, and not only does it protect the men absolutely but it does not require him to go through a process of semi-asphyxiation, neither does it impede his mobility. Horses could be carried forward in these land-submarines, but for what purpose?

Science is irrevocable, it masters all prejudices and all interests. Cavalry, as men on horseback, are doomed and whatever their strivings towards reaction may be, we inevitably sooner or later must enter "The third cycle in Cavalry tactics."

XXII.—The Third Cycle in Cavalry Tactics.

The Cavalry "idea" and spirit have now been traced through a period of no less than 2,500 years of history, and it will be found, if a little judgment be exercised, that in spite of the fact that the opponents of Cavalry may point to the uselessness of this arm with some semblance of justice, seeing how little it has accomplished during the last hundred years, to-day, as at any other date throughout this lengthy period, the Cavalry "idea" is still the essential one and without it there can seldom be a decisive victory.

It is not the "idea"—mobility based on stability—which is obsolete; it never has been so and, as far as can be seen, never will be so, but in place it is the equipment. The body remains the same, but its clothing requires not mending but renewing. Neither is there anything strange or novel in this, for the equipment has changed many times during history. We have seen the Scythians armed with bows, and the knights of the Middle Ages clad in iron; we have seen the lance replaced by the pistol, the pistol by the sword, the sword by the revolver. We have not seen the horse replaced by any other means of locomotion, because, not until to-day, was such a means possible. This, however, is no reason why we should not adopt the best means we can, for it is no more derogatory to change the means of motion than it is to change the type of weapon. Who to-day considers it derogatory to travel

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by rail because it is a speedier means of locomotion than on horseback, or in a motor-car in place of a dog-cart.

If the act of annihilation in battle be still necessary, and who can doubt it, then Cavalry must change or vanish; and if the latter course be adopted, who is there to replace them? Who to carry forward that spirit of chivalry, that idea —to clinch and destroy, which has been handed down as a precious heirloom by generations of Cavalry soldiers?

The new knight is the old knight transformed because the horse which the old knight rode cannot assist in the modern quest. The petrol engine replaces it; it lacks the nobility which all living things possess, but it owns power, and it is power to move and power to hit and power to shield which every soldier should strive to obtain. If tradition bid us falter, common sense dictates that we should change and stable our horses and mount into our battle cars.

If, for purposes of war, fire has not rendered the horse obsolete, gas most certainly will do so and the Infantry soldier will disappear as such with the trooper. The doom of all muscular warfare has been sealed and the third cycle in Cavalry tactics has begun, a cycle in which once again soldiers in their entirety will be mounted like the knights in the early Middle Ages, but with this difference—the armoured knight was an anachronism, a tactical anomaly. He possessed mobility, but, save for the local protection of his armour, his squadrons and battles possessed little stability. So pronounced did this limitation become that frequently he had to retire behind his wagon lines to seek cover in order to reorganize—he sought shelter behind his non-combatants, his Royal Army Service Corps of the day.

If all means of mobility be similar, mobility is equal, and with equality superiority is most difficult to attain; the result of this is that tactics become but brainless manœuvres. It is from stability that mobility draws its life and, whilst the horse remains but a one-horse-power means of motion, the engine can multiply its horse-power indefinitely, producing variations of mobility, and it is in this power of variation and all that it includes—stronger armour and more powerful weapons—that true mobility is founded.

In the mechanical wars of the future Heavy Cavalry will become the stable element and Light Cavalry the mobile, just as at sea to-day the stability of a fleet is provided by its battleships and its mobility by its cruisers.

Soon, if tradition be tempered by common sense, shall we see steps taken to organize our army on tactics, and not tactics on organization. We shall see our present forces divided into stable and mobile categories. It is difficult to see clearly how this will evolve, but if tradition, which possesses enormous psychological power, and common-sense (action adapted to circumstances), which leads to enormous material results, be followed, then probably the Infantry and Artillery will form the stable and Cavalry and Aeroplanes the mobile sides of tactics. We then obtain the following tactical organization for our future mechanical army.

(1) Super-heavy mechanical Cavalry in various categories—represented by the present-day Artillery firing shell and delivering gas.

(2) Heavy mechanical Cavalry—represented by the present-day Infantry.

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(3) Light mechanical Cavalry—represented by the present-day Cavalry.
(4) Super-light mechanical Cavalry—represented by the present-day Aeroplane.

The battle remains the same—there is the assembly, the approach, and the attack. The fight remains the same—there is the act of demoralization, the act of decision, and the act of annihilation. Grand tactics remain the same—there is attrition, surprise, envelopment, and penetration. The strategical principles of war remain the same—the principle of the objective, the principle of the offensive, the principle of security, the principle of concentration, the principle of economy of force, the principle of surprise, the principle of movement and the principle of co-operation. The science of war does not change, the art of war does, for the conditions of war are always changing, and unless we change with them our army will become but a barbaric horde, a mere animated stop-butt for bullets, as was the mad Mullah's army at Omdurman.

The battle of the future is a fascinating speculation. The independent Cavalry in the form of aeroplanes will advance, covering the movement of the strategic land masses below them. They will signal and will speak and the masses will deploy into the tactical assembly. The stable elements will hold the stable elements and demoralize them and the Light Cavalry will manœuvre for flanks or rear, the pursuit will once again become possible and amidst the roar of engines above and beneath and the crash of steel and armoured plate will the act of annihilation be accomplished.

There is something magnificent and awe-inspiring in this picture—the triumph of the brain of man above all material difficulties.

How can it be realized ? In the last Section of this study we will attempt to point the way.

XXIII.—The Necessity for Free-Thought and Foresight.

If we are to progress in the art of warfare, we must not stand still ; to stand still is to retrogress. The world idea moves and we must either move with it or perish by a slow or speedy decline. This is the law of life, which is as applicable to an army as to an individual, for an army is nothing but a mass of individuals.

If we wish to progress we must use our brains and materialize our thoughts in our actions. In order to institute a new military order, such as outlined in the last Section, we have got to fight for it on well recognized lines. We must clearly visualize our objective and regulate our actions according to the remaining principles of war, for these principles are applicable to all modes of action in civil life as on the battle-field. But, before we can do so we must understand the conditions amongst which we shall have to work. These conditions are many, but the most important are vested interests, vested prejudices, and the inert desire of the normal man to remain at rest, to meander through life along well-beaten tracks, to rotate his prayer wheel and repeat his official incantations and to disappear eventually into an ignominious oblivion—flattening his nose against some club window until death carries him away.

Inertia is a ponderous foe ; Sisyphus at least obtained healthy exercise by rolling

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his stone up a hill, but inertia is like a great suet dumpling, heavy and yet resilient, immovable through its very flabbiness.

To the law of inertia no army is long exempt, for, second only to a church, is an army firm in its conservatism. We must have free-thought unless we are to become a Jesuitical brotherhood, and as the free-thinker makes few friends and many enemies our strivings must be backed by an invincible courage for truth. Many men are capable of winning the V.C. on the battle-field, but there are few who can write a truthful minute to a conservative officer.

Every rational argument is a true argument which deserves our attention, however much we may dislike it or however much it may jar against our preconceived ideas and cherished traditions. If it contain a great truth it will succeed in spite of opposition; it cannot help succeeding, for it is the law of moral evolution that it shall succeed. Either, the truth of a new and scientifically equipped army must be accepted by us or it will be forced upon us by civil pressure coming from within the Empire or by military pressure coming from without. It is not for a moment suggested that the military system advocated in this study is the best of all possible military systems, but it is roundly asserted that whatever may be its value one thing is sure and this is that the military organization of 1914 is of things dead and gone.

Rational free-thought requires foresight, and foresight requires an ideal to focus it. Our military ideal is the maximum tactical efficiency at the minimum cost, an ideal which does not only interest the soldier but the whole Empire, for every man required for the army is a man who, during days of peace, is unremuneratively employed, and to save man-power we must follow in the footsteps of industry and replace men by machines.

We obtain foresight by back-thought, that is, looking back and understanding war as a science in place of as an entertaining romance. In this study the whole history of Cavalry has been sufficiently touched upon to enable us to understand the essential value of this arm in the future; to refuse to do so is to deny victory to our army.

Foresight is seldom accepted at its face value; it is no use arguing, however rationally, with the crowd, for only by action is inertia overcome. In order to prove our foresight we must needs experiment—the creation of the new, the attachment of the new to the old, and, if it prove efficient, the absorption of the old by the new must be our method. In less cryptic words, first we should raise a mechanical force, then we should attach it to the old existing Cavalry organization, and lastly, if it prove worthy, will it slowly eat up the old and in the act rejuvenate it.

How long this process of evolution will take depends on sympathy and co-operation, co-operation to prove it right or wrong—the new idea must be given a fair trial to show its paces; do not, therefore, let us obstruct it as nearly every great idea has been obstructed in the past. There is the unconscious obstruction of prejudice and the wilful obstruction of interest, but worst of all there is the brainless obstruction of inertia—sitting still and rotating our ancient prayer wheels; this system ends in mental emasculation and impotence.

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To the cavalryman of to-day cultured blindness to the necessities of future warfare must be abhorrent. The horse is doomed; it is no longer an argument of fire-arms *versus* the *arme blanche*, but of a change in the element of movement itself. The horse, as a civil means of traction, is fast disappearing from the commercial world, and we may be certain that, as this is so, will the horse also eventually disappear from the realms of war.

The fate of Cavalry is in the hands of its leaders, they can rejuvenate it in the Medean cauldron of mechanics or they may become the interesting counterparts of the Yeoman of the Guard or the Archers of Scotland. The roads fork before them, but that the heirs of the " spirit of chivalry," which carries with it that crown of victory, the act of annihilation, will now take the wrong turning is hard to think. "The old spirit and the new movement and how to combine them," this is the Cavalry problem which every thinking Cavalry soldier is asked to solve during the next few years, and it is hoped that this study may in some small degree help in its solution.

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SOME CRITICS OF CAVALRY AND THE PALESTINE CAMPAIGN.

By BRIGADIER-GENERAL G. A. WEIR, C.M.G., D.S.O.

COLONEL FULLER'S article in the April number of the CAVALRY JOURNAL certainly should, in the words of the Editorial note, "be of considerable interest to our readers."

His review of cavalry operations from almost prehistoric times up to the present day is a masterpiece of pictorial précis-writing; he shows the whole history and development of cavalry to his readers as a landscape is viewed from the windows of a railway carriage, or the rapidly changing incidents of a drama appear on the screen of a cinema. He has produced a most interesting verbal chart showing the heights to which cavalry has risen and the depths to which it has fallen at various periods since war first was, and he leaves it at a low ebb in the Great War of 1914.

As regards the use of cavalry in this War, he wisely avoids detail, but has a few words to say as to the cavalry work in general of each of the principal combatants. Of the German he says :—

> "Throughout this period the strategical use of the German cavalry was good, but their tactical value was not great, the slightest rifle resistance halted their advance, and as for shock fighting, save for a few minor inter-cavalry engagements, it did not take place."

He draws a pitiful picture of Sordet's march casualties, and having shown us the French cavalryman reduced to his feet as a means of locomotion, "to-day we have become infantry pure and simple," misses a grand opportunity of pointing the lesson that tanks do not get sore backs, and closes the subject with a quotation from Colonel Boullaire's article in the *Revue Militaire Generale* showing how, in the opinion of this distinguished officer, cavalry tactics are completely dominated by fire.

The work of the British cavalry in France is dismissed in a dozen lines, and no record is given of the British march casualties during the retreat and the subsequent advance to the Aisne (probably out of respect for the feelings of our gallant Allies), for truth to tell sore backs were non-existent in the British cavalry even after the severe strain of those operations.

The cavalry operations in Palestine, the greatest and most successful ever undertaken by British cavalry, and unequalled by any operation of a similar kind

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in history (with the possible exception of the work done by Denikin's Cossacks in the final campaign in South Russia, of which no records are as yet available), are dismissed in one short paragraph, in which the only accurate statement is that contained in the opening sentence: " In support of the *arme blanche*, and the use of cavalry as an effective weapon in pursuit, frequent reference has been made by the adherents of cavalry as cavalry to the brilliant use of this arm in Palestine during the final stages of the War in the East." How true; and unfortunately it is equally true that the critics of cavalry as cavalry have taken no steps to study this campaign. How otherwise could Colonel Keir* have written: " Given all credit to those who conducted and carried out our operations in Palestine, it was the tanks which enabled us to break through the Turkish defences, and our aeroplanes that converted the retirement into a rout " ?—and this in spite of the fact that, after their initial failure at Gaza, not a tank was used in the final break through of September 19th, and that aeroplanes, though they did great work in harassing the retiring columns of Turks, did not, and obviously could not, materially assist in the capture of some 60,000 prisoners, which was due to the cavalry alone. Owing to the difficulty of finding suitable landing grounds and of keeping up the petrol supply, the number of aeroplanes that were able to co-operate with the cavalry during the operations, which resulted in the capture of Aleppo, was so greatly reduced that very rarely could two take the air at the same time. So much for General Keir's accuracy; but to return to Colonel Fuller.

He leads us to believe that " certain interesting changes which took place in cavalry equipment tending toward stability," the most important of which were the increase in the number of machine guns and the introduction of Hotchkiss guns, were introduced " in spite of the conservation of British cavalry leaders." It would be interesting to know who these officers, presumably in high places, were, as cavalrymen of lower grade who were continually agitating for these weapons to increase their fire power were invariably informed that they must wait until the infantry were fully equipped.

It must be admitted that some few inaccuracies and (to use Irish) omissions have crept into Colonel Fuller's account of the most modern phase of cavalry warfare, and although it would be unfair to accuse him of purposely distorting facts to uphold his case against the *arme blanche*, one is inclined to suspect that his intimate acquaintance with " that lying jade history," and his interest in the purely mechanical side of war, have led him to overlook the all-important human element.

The human element is the most difficult fact to grasp in the study of history.

The task of the military historian is no easy one; the accounts of the same action given by any two officers who were present almost invariably vary in detail; there is a natural tendency, which it is hard to overcome, to throw the blame of a " regrettable incident " on another, and to attribute success to the gallantry and efficiency of one's own corps; add to this the fact that no man can tell of more than that which took place in his immediate vicinity during an action, the possibility of the miscarriage of orders, jealousies and misunderstandings among commanders,

* See "A Soldier's Eye-view of the War," by General Keir.

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and all that goes to make up the confusion and the fog of war, followed by explanation and counter-explanation, theory and counter-theory, and some idea may be gained of the difficulties that beset the would-be military historian. The science of historical criticism is intended to overcome such difficulties, and deals with the examination of documents and the determination of their reliability, the collecting and sifting of evidence internal and external, and finally the drawing of logical conclusions. A single action becomes the study of years, and a campaign that of a life-time. Historical criticism is a comparatively modern science and the more ancient the historian the less reliable are his data and conclusions. Colonel Fuller's cinema pictures give very inadequate data for the formation of a logical opinion and he entirely neglects the human element; his thoughts are fixed on the machine and not on the man who works it, so that cavalry officers may be forgiven if they refuse to accept his conclusions on the evidence produced.

Without going too far back into history, let us for a moment examine the grounds on which the opponents of the *arme blanche* base their arguments for the re-armament and reconstruction of the cavalry. Let us consider the South African War and the lesson that " the power of the rifle has rendered the stability of infantry on the defensive so great that it is no longer an economic proposition to use cavalry against them." This statement is on a par with that other " lesson " of the South African War, " infantry cannot attack across the open, a turning movement is the only possible solution in an infantry attack against a strongly entrenched enemy." Both these statements arise from accepting the most obvious solution without further thought, and the campaigns in France and Palestine have proved both to be equally fallacious. Even in the South African War, by changing their tactics and adopting a more open formation with greater depth, infantry succeeded in attacking positions frontally without undue loss, and the Japanese in Korea were equally successful; but in South Africa our cavalry, instead of following the example of the infantry and changing their formations to meet altered conditions, accepted the policy now advocated by the opponents of the *arme blanche* and handed in their swords and lances. How many cavalry officers lived to regret that hasty decision, how many opportunities were lost, and what would have been the effect in shortening the war had such opportunities been taken, can best be answered by the cavalry officers who took part in it. We sought a solution in a change of arms; the infantry achieved it by a change of tactics.

There is a tendency on the part of those who advocate a change in cavalry armament to envisage all future wars as developing on the same line as the campaign in France and Belgium and to overlook the possibility that a war of movement might, as in the late campaign, precede a period of trench warfare. " There are no flanks, there is no possibility of using cavalry save as mounted infantry, or, better still, mounted machine gunners," so says Colonel Fuller, and, " as the impediments which exist to cavalry action in the future, so long as the arm is employed in a civilized and populous country like modern Europe, are thought by some of us to be of a permanent nature, it may be as well to state them," thus General Keir, who proceeds to enumerate six conditions which in his opinion would limit

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the utility of cavalry in modern war in Western Europe, " it is only reasonable to suppose that in future most land frontiers will be quite prepared to prevent an inrush of cavalry on the declaration of war."

The assumption that our cavalry are at the present moment armed and trained for such a campaign shows how little forethought our critics have given to the uses to which we shall probably be put. Afghanistan, Persia, Mesopotamia, Asia Minor, Syria, Poland, and Russia are all disturbed areas, and it is within the bounds of possibility that we may be called on to operate in any of these within the next few years, but another world war in Western Europe within our life-time is not only improbable, but, in the present state of exhaustion of the great Powers, almost impossible.

In which of the possible or probable theatres of war are we likely to meet with " continuous trench lines and unassailable flanks," or even " a land frontier prepared to prevent an inrush of cavalry " ? Apart from lack of material, deficiency of man-power would militate against a repetition of the conditions which distinguished the late campaign in Europe. Even in its palmiest days Russia failed to present a continuous trench line against the German attacks, and since the advent of the Soviet Government, although hostilities of some sort or another have been continuous for over two years, stability has never been established.

When the whole of Bolshevist Russia has failed to put such an army into the field as is necessary to produce the stable form of warfare, is it probable that the Turks, the Kurds, the Afghans, or any of the turbulent nations with whom we are likely to find ourselves at war, will succeed ? Have they the numbers, do they possess, or can they produce the barbed wire, the guns of all calibres, the machine guns, and all the other paraphernalia, which are essential to this particular form of warfare ?

The answer would appear to be negative. We have to train our cavalry for a campaign which is much more likely to resemble in its broad outline that in Palestine than that in France ; we must revert to some extent to our pre-War conception, at any rate for the time being.

There may be fortified areas, there will probably be " strong points " with a certain amount of barbed wire, artillery on something like the pre-War scale, a considerable number of machine guns, possibly a few tanks and armoured cars, and of course aircraft ; these are the probable mechanical ingredients of the next campaign, and the most important from a cavalry point of view is the probable shortage of barbed wire.

The outstanding feature of the Palestine campaign was the shortage of barbed wire on the enemy side ; little, if any, existed behind their front trench system, and, strange as it may seem to the " fire power " enthusiasts, the greatest lesson of that campaign is that, where no insurmountable topographical obstacle exists, cavalry in open order can charge and overcome hostile riflemen and machine guns. Here bad going, such as rocks and the like, over which one would hesitate to gallop in peace time, have been crossed successfully. The following actions are typical of many which took place during the Palestine campaign, and in no cases were the

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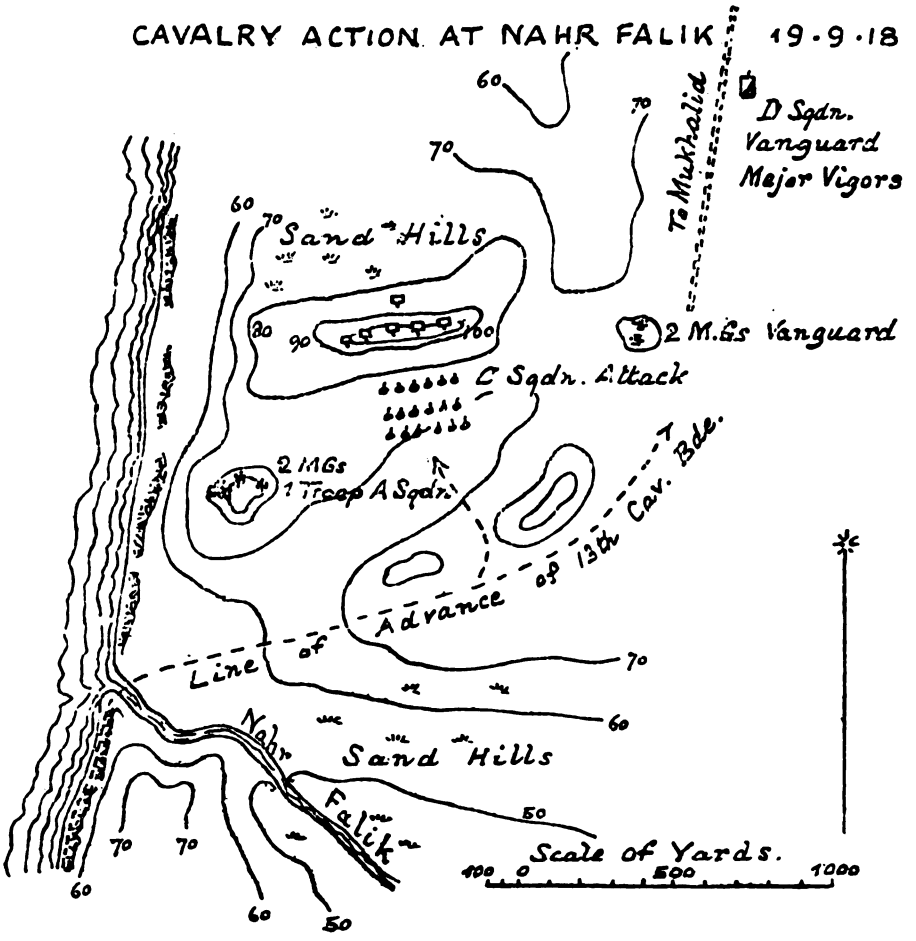
casualties suffered equal to those which would have occurred had a dismounted attack been made, whilst the gain of time which led to the final rounding up of the Turkish Armies was out of all proportion to the loss suffered.

On September 19th, 1918, following the successful infantry attack which broke through the Turkish lines, the 5th Cavalry Division advanced along the coast, their first object being Liktera, 16 miles behind the Turkish position.



The Wadi * Falik, some 6,000 yards behind the Turkish front line trenches and forming part of their second system, was the final objective of the infantry (60th Division) in a northerly direction, whose orders directed them to leave a party to

* In Arabic *Wadi* signifies water-course and *Nahr* river; both words are used with the Falik in this account.

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cover the cavalry whilst crossing this obstacle, and to move their main body in a north-easterly direction on Tul Keram, which they were expected to reach the same evening.

A narrow strip of sand between the cliffs and the sea gave a covered line of approach to the cavalry as far as the Wadi Falik, which was crossed close to its mouth ; but from this point as far as Liktera their route lay over country not unlike that on the coast of Belgium near Ostend, and consisting of a series of low sandhills frequently covered by tufts of long grass and intersected by sandy nullahs with almost perpendicular sides cut out by the winter torrents, which during the rains frequently rise to a great height, and disappear in the summer, leaving a bottom of treacherous quicksands.

The 9th Hodson's Horse (Lieut.-Colonel Rowcroft), with one machine-gun troop, formed the advanced guard to the division, and had one squadron (Major Vigors, D.S.O., M.C.) with two machine guns as vanguard.

As soon as the vanguard reached the top of the cliff forming the north bank of the Wadi Falik it deployed from the column formation in which it had crossed that obstacle, and before it had advanced 500 yards from the Wadi came under fire from a sandhill about 1,000 yards to the north.

As the line of advance on Liktera led in a north-easterly direction Major Vigors decided to continue on this line, with the object of finding the enemy's flank and if possible turning it. Keeping to the low ground, he pushed forward and found a small knoll some 400 yards on the eastern flank of the enemy's position unoccupied ; here he ordered his machine guns into action and continued to advance with his squadron to ascertain whether the enemy had his left flank thrown back, and if possible to reach his rear.

Meanwhile the main body of the advance guard had debouched from the Wadi and in its turn came under fire. Not having picked up Major Vigors' signal message that he had turned the enemy's flank, Lieut.-Colonel Rowcroft ordered two machine guns and one troop to seize a small sandhill on his left front, to cover a mounted attack to be delivered at once by the leadlng squadron of the main guard.

This manœuvre was rapidly carried out, and the Turks found themselves under machine-gun fire, which opened almost simultaneously from their right front and left flank, whilst a squadron in column of troops in open order, with 100 yards distance between troops, suddenly appeared from between two sandhills about 500 yards from their front and galloped straight at them.

This was too much for their nerve, and when the squadron was less than 100 yards away they ceased fire and tried to escape over the sandhills in a north-north-westerly direction.

A few were speared and some captured, but as a pursuit would have led him away from his proper line of advance Colonel Rowcroft recalled his troops at once and continued on his way towards Liktera.

Whilst this action was in progress one of our aeroplanes circled over Major Vigors' vanguard squadron and dropped a message to the effect that an orchard some few hundred yards to the right of the Liktera track was held by the enemy.

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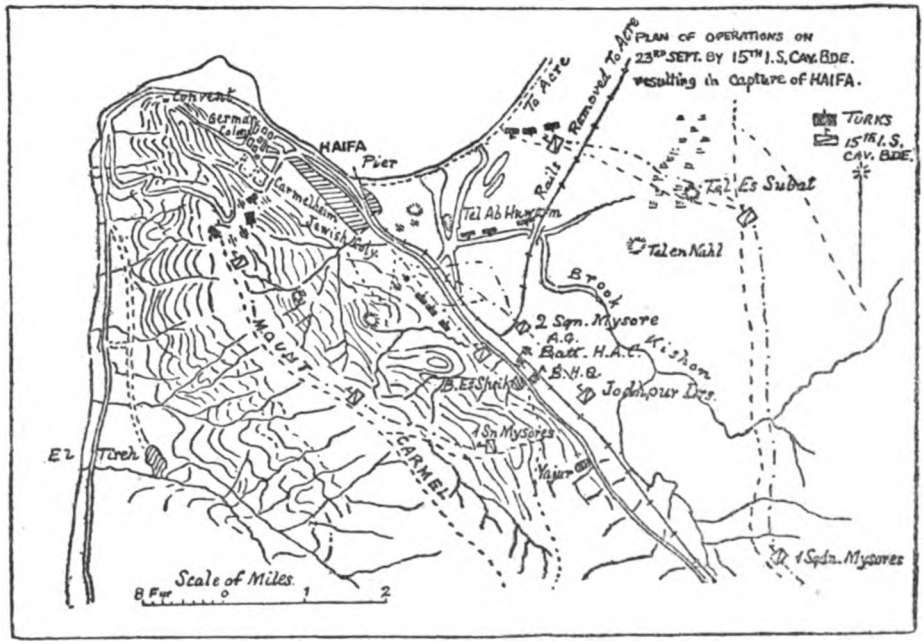
Seeing that the Turks on his left were being dealt with by his main guard, and fully realizing that time was of the utmost importance, he decided to clear the enemy from this second point without waiting for his machine guns, which were still in action, to come up. Some 500 yards of open ground had to be crossed to reach the orchard, which was a strong point on a slight rise surrounded by a cactus hedge; Major Vigors galloped this position in open column of troops, and though received with a hail of bullets, reached and entered the enclosure, where he captured two guns, three Lewis guns and 25 infantry. His casualties were negligible.

The critics of the *arme blanche*, should they ever condescend to study this campaign, will no doubt point out that these actions were fought against a defeated and disorganized enemy; but it must be remembered that, although their line had been broken, the Turks could not possibly have known at that time the extent of the disaster, and that in the previous operations both after Beersheba and during the fighting in March, 1918, they had proved themselves to be stubborn and skilful fighters of rearguard actions; whilst on September 20th, the day following the



action described above, they put up some very good fights against our infantry in the hills between the coastal plain and Nablus.

The opinion of all those present was that a dismounted attack would have been a necessarily slow, and probably costly, operation, and that the success was entirely due to the moral effect of the *arme blanche*. The lesson for cavalry officers to

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remember is that such an attack must be made in open order, at a rapid pace, and in *great depth*.

The taking of Haifa by the 15th Imperial Service Cavalry Brigade is another fine example of the triumph of the *arme blanche* over an enemy who relied on fire power alone as a means of defence, and is one of the few instances in history in which cavalry unaided by the other arms captured a city of some importance by mounted action.

Time in this case was of the utmost importance, as it was essential to Lord Allenby's plan for the further pursuit of the Turks that Haifa should be available as a new base for the landing of supplies by sea, and until it was in our hands no further advance was possible.

The town of Haifa lies on the Carmel promontory, and is completely shut off from the south by the great mountain ridge of that name, which, rising in a precipitous cliff within a hundred yards of the sea on the western side of the town, runs back in a south-westerly direction to join the Judean hills near Jenin, and forms the southern boundary of the plain of Esdraelon; its south-western face is almost perpendicular, and rises to a height of about 200 feet; the narrow foreshore between the cliff and the sea is the only possible line of approach to the town from the south and west. Eastward the foothills of Carmel approach within 2,000 yards of the Bay of Acre, and overlook a cultivated plain of black cotton soil which stretches north and east to the Lebanons.

The Brook Kishon crosses the plain from south to north, and with its steep sides and treacherous bottom forms a serious obstacle to any approach from the east. The foothills themselves are terraced with vineyards and fig orchards, and rise steeply to join the main *massive*, the summit of which can only be reached by a few goat tracks, which offer a precarious foothold to man and beast. The road and railway from El Fule skirt the foothills and form a defile between them and the river at the point where it turns north to cross the plain.

It is hoped that the above description will have made it clear to the reader that the approaches to Haifa offered every facility for a protracted defence; the garrison, consisting of about 1,000 rifles, three batteries of artillery, and two 6-inch naval guns, was ample, and as it formed part of the Turkish general reserve had not been previously engaged.

At 3 a.m. on September 23rd the 15th Imperial Service Brigade (less Hyderabad Lancers) left El Fule, forming the advanced guard to the 5th Cavalry Division directed on Haifa and Acre. The route lay along the plain of Esdraelon, an expanse of black cotton soil some 25 miles long and five to ten miles wide, watered by the Brook Kishon and its numerous tributaries. Near Esfia the plain narrows to a width of two miles and from the apex thus formed makes a triangle, with its base on the Bay of Acre, bounded on either side by Mount Carmel and the foothills of the Lebanons.

A squadron of the Mysore Lancers, acting as vanguard, reached the village Beled Es Sheikh at 10 a.m. without encountering any opposition, but at this point they came under fire of the enemy's artillery on Mount Carmel, and of infantry

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and machine guns hidden among the vineyards on the lower slopes of the mountain. A reconnaissance showed that the enemy's dispositions were, so far as could be ascertained, as follows: Four guns on Mount Carmel, believed to be in the vicinity of Mar Elias; six guns near a small mound about 800 yards from the eastern end of the town; infantry and several machine guns, holding the lower slopes of Mount Carmel about 1,000 yards from the town, and flanking the road from El Fule for a distance of some thousand yards at a range of three to five hundred yards.

Orders were at once issued for one squadron of Mysores to ascend Mount Carmel by a goat track from Beled Es Sheikh and attack the guns in action, the remainder of the brigade to attack along the low ground. The Brigadier decided to make a mounted attack with the Jodhpur Lancers from the east under cover of fire from "B" Battery, two machine guns, and the two squadrons of Mysore Lancers deployed east of the road. At 11.30 a.m. our troops were situated as follows:—One squadron Mysore Lancers with two machine guns moving up the goat track to Mount Carmel; one squadron (flank guard) away to the east on the road between Haritheyen and Tel Es Subat; two squadrons and two machine guns about 1,000 yards north-east of Beled Es Sheikh with advanced troops on the railway; the Jodhpur Lancers halted in the open 1,200 yards east of Beled Es Sheikh; "B" Battery H.A.C. coming into action north-east of that village; Brigade Headquarters and one sub-section machine guns in reserve immediately north of the village.

At 11.45 a.m. the Sherwood Rangers Yeomanry joined the brigade and one squadron was at once ordered to move up the mountain track and support the squadron of Mysore Lancers on Mount Carmel in their attack on the enemy's guns.

This squadron started the ascent at 12.10 a.m. and, in order to allow time for the troops on Mount Carmel to reach their objective, so that the attack on the heights and in the plain should take place as nearly as possible simultaneously, the remainder of the brigade was ordered to stand fast, and the attack by the Jodhpur Lancers was postponed till 2 p.m.

Meanwhile patrols were sent out to examine the ground and seek further information of the enemy's dispositions; these patrols were unable to reach the Brook Kishon owing to the heavy machine-gun and artillery fire, but located eight more machine guns just north of the Wadi (Brook Kishon) between Tel Abu Huwam and the old Acre railway and two guns just west of the main railway in the foothills.

During this pause in the operations the enemy kept up a desultory fire, to which "B" Battery H.A.C. replied by shelling such targets as were reported by patrols.

At 2 p.m. the final attack commenced; the Jodhpur Lancers from a position of readiness 500 yards east of Beled Es Sheikh moved forward at a trot in column of squadrons, in line of troop columns, supported by the artillery north-west of the village and two squadrons of Mysore Lancers with two machine guns, who took up a position along the embankment of the old Acre railway about 500 yards from its junction with the main line. As the mounted troops crossed the old railway the enemy's machine-gun and rifle fire became intense, and our two machine guns which had been held in reserve were galloped into action to increase the fire support.

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Notwithstanding the hail of shrapnel and bullets the Jodhpur Lancers moved steadily on without a check, bringing up their left shoulders as they went. The ground scouts reached the Brook Kishon (which, as has been noted above, the patrols had been unable to reconnoitre thoroughly), only to find that it was everywhere impassable, and the whole regiment (with the exception of one squadron which attempted to find a way over to the right) changed direction to the left, the leading squadron directed on to the machine guns and infantry in the foothills west of the main railway line. Deploying as it advanced, this squadron broke into a gallop and charged the position, killing all the machine gunners and scattering the infantry. This dashing attack, which was made over difficult ground and under heavy fire both from front and flank, opened the defile formed by the road and railway, and cleared the way to Haifa for the remainder of the regiment. Whilst the first squadron rallied west of the road, the second squadron passed the defile and, deploying half right, charged the mound 800 yards east of the town, which was held by two machine guns and a number of riflemen; these they captured and then turned their attention to some guns in action in the palm groves nearer the shore, which suffered a like fate.

Meanwhile the first squadron had rallied after its charge, and, accompanied by the third squadron, galloped straight through the town; shots were fired here and there by Turks behind walls and from houses, but the fight was practically finished before they entered the town. At the far end they were joined by the 4th Squadron, which, it will be remembered, had moved to the right on reaching the Wadi in the first advance and, failing to find a way over, had wheeled about and followed along the lower slopes of Carmel; skirting the southern edge of the town, it reached the Jewish colony, where it captured two guns which had remained in action a good ten minutes after the rest had ceased.

The second squadron, after taking the guns in the palm grove, moved along the shore and rejoined the regiment at the north-west end of the town.

The Mysore Lancers (less two squadrons), who had supported the main attack by fire, mounted, as soon as the Jodhpurs masked their fire and followed them through the town. The right detached squadron of the Mysore Lancers, which was last mentioned as on the road to Tel Es Subat, had been held up by artillery and machine-gun fire near the Acre railway, but as soon as they saw the Jodhpur Lancers advance to the attack they decided to co-operate by charging the enemy in front of them. The Turks on this side of the battlefield were holding the sandhills along the sea-shore near the eastern mouth of the Brook Kishon and greeted the Mysore advance with a terrific burst of fire, but the moral effect of the Lancers galloping straight at them was such that their fire was wild and the position was quickly taken. In this charge two guns, two machine guns and 110 prisoners were captured. Almost simultaneously with the main attack from the east the Mysore left squadron on Mount Carmel charged the enemy's position one mile south of Karmelheim. This squadron had made its way up a very difficult gorge and a great number of horses had fallen out. On approaching the enemy's position two machine guns and the Hotchkiss guns were detached to the left flank to give covering

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fire, but only 15 men were left to take part in the actual charge; notwithstanding the stony going, these 15 men galloped in and captured one 6-inch gun, two mountain guns, two machine guns, and 78 prisoners. A portion of the squadron of the Sherwood Rangers came up in the nick of time to support this attack, and taking up the pursuit captured an additional 50 prisoners.

The total of prisoners and booty taken amounted to:—Two German officers, 23 Turkish officers, 664 other ranks (exclusive of those in hospital), two 6-inch naval guns, four 4·2-inch guns, six 77mm. guns, four 10-pounder camel guns, ten machine guns, and a large quantity of ammunition.

Our casualties were:—One Indian officer, two Indian other ranks, and 64 horses killed; six Indian officers, 28 Indian other ranks, and 83 horses wounded.

By 3 o'clock in the afternoon the whole battle was over, and a new base for further operations secured, and this result was achieved by one weak Cavalry Brigade, in one hour from the commencement of the attack, the success of which was entirely due to the fine cavalry spirit displayed by all ranks, from the Brigadier downwards, and to the bold use of the *arme blanche*.

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OBSERVATIONS ON THE CARE AND MANAGEMENT OF ANIMALS IN A MOUNTAIN SECTOR.

By Brevet Lieut.-Colonel H. S. Mosley, D.S.O., R.A.V.C.

These observations were made from March to September, 1918, during the period the British force in Italy occupied a sector on the Asiago Plateau.

The British force consisted of three divisions and corps troops (including the Northamptonshire Yeomanry). Two divisions were in the line at one time, with one division in rest billets in the plains.

During this period the British made 41 raids, and the Austrians their big and final offensive on June 15th, 1918.

Description of the Sector.—Geographically the sector may be divided into (1) the Plains; (2) the Plateau; (3) the Ascent to the Plateau.

(1) *The Plains (Thiene Area).*—The area occupied may be described as an inverted triangle with its base running along the foot of the hills between Caltrano and Breganza and its apex at Thiene (the railhead). Across this area flowed the River Astico, along whose banks the majority of the rear wagon lines were billeted or encamped.

The division in reserve was billeted about 20 kilometres south of Thiene in the Trissino area west of Vicenza, but only the infantry transport moved with the division. The yeomanry were billeted at Sarcedo; G.H.Q. was located at Lugo. There was little billeting accommodation for animals in the Thiene area and the majority of the animals were on open lines.

Camping Ground.—With the exception of a few open spaces along the banks of the river, where there is gravel soil, the country in this area is very fertile and highly cultivated with crops of maize, wheat, oats and lucerne, intersected with rows of mulberry trees linked with vines.

The units made permanent standings with the round stones from the river bed; these standings were not only necessary for horse lines on arable land, but also as a protection against sand colic; precautionary measures were taken to keep the horse lines away from the river's edge because of the danger of spates.

In the summer units erected temporary shelters as a protection against sun.

With one or two exceptions the camps were so situated that there was every facility for watering animals, which was very important during the summer months.

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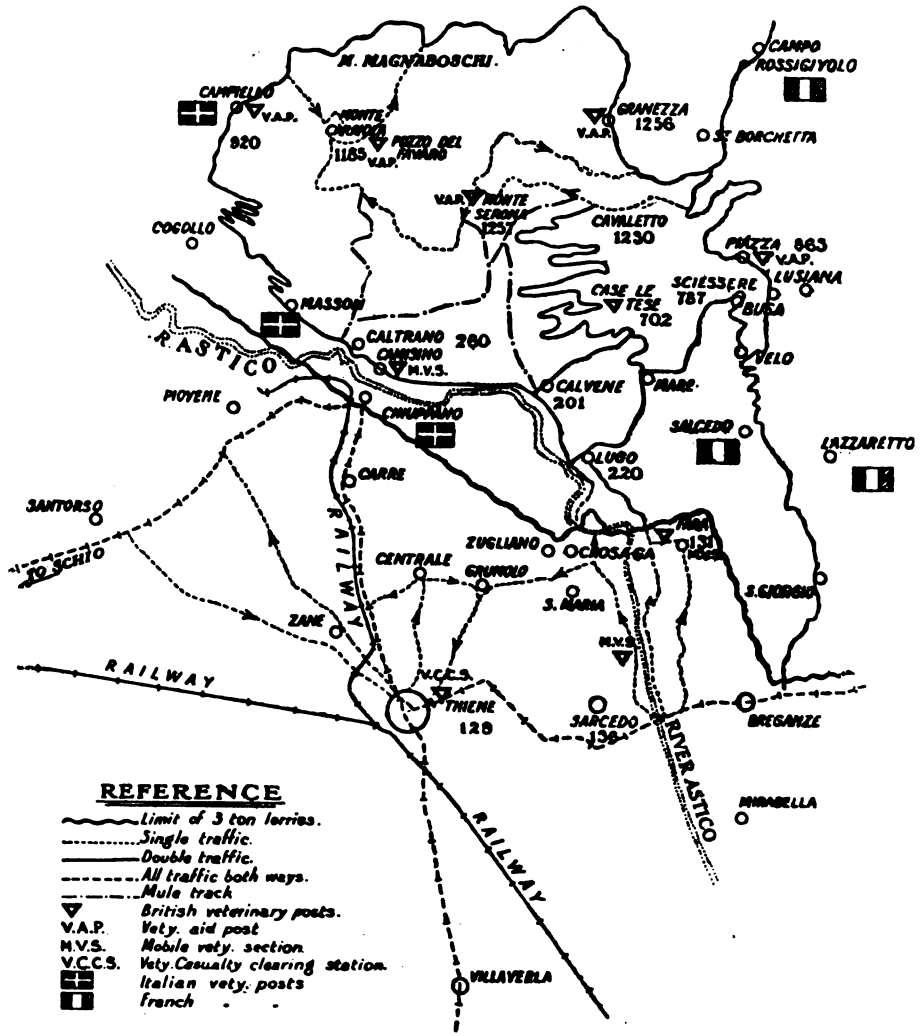
(2) *The Plateau* is about 1,250 metres above sea-level and 1,000 metres higher than Lugo. The plateau is covered with rocks.

On the right sector the advanced wagon lines were concentrated at Granezza, the Divisional Headquarters. It was well sheltered with pine trees.

Here there were a number of Italian wooden built stables; the floors were well laid with stone (an art in which the Italians are past masters). These stables



XIV CORPS AREA TRAFFIC MAP

SCALE 1·100,000.

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were all disinfected with the blow lamp, whitewashed and tarred on occupation, and as the Italians adopt the Continental method of bedding down animals, one can imagine that there was a certain amount of work required to reduce the stables to our English ways.

On the left sector the plateau is more exposed, particularly at Carriola; there being very little shelter, the animals at first had rather a thin time of it. Needless to say, there was a great variance in temperature between the plains and the plateau, particularly in the early spring, when it was bitterly cold and wet; this variance of temperature was one deciding factor in the organization and working of the transport animals.

In the summer there is good grazing on the plateau.

(3) *The Ascent to the Plateau.*—The distance, as a crow flies, from Lugo to the plateau is about 17 kilometres.

When the British first took over the sector there were two roads. On the right, a road running through Salcedo-Velo, Sciessere (the halting stage), Piazza, Granezza, a distance of about 35 kilometres. The road was in very good condition, the climb was gradual, with few hair-pin turnings. It was used by British, French, and Italian troops.

On the extreme left there was a road from Caltrano through Campiello (a mountain railhead) to Carriola. This road was in good condition, with sharp hair-pin turnings and steep gradients, particularly above Mosson and Campiello.

A third road was later opened in the middle of the sector from Calvene to the marginal road at Cavalletto; this relieved the work on the right sector. The halting stage was at Casa le Tese.

At the halting stages veterinary aid posts were established.

Transport.—Provisions, stores and ammunition were conveyed to the plateau either by mountain railway as far as Campiello by Teleferica, motor lorries or horse transport the whole distance.

Number of Animals.—There were 12,000 horses and 4,000 mules in the forward area, of this number 3,000 lived on the plateau, 1,500 in each divisional advanced wagon lines. These were principally mules, but what draught animals there were compared badly with the mules as regards acclimatization and mountain work.

Horse Transport can be divided into two parts: (1) draught; (2) pack.

Draught animals were used wherever possible and as the roads were good animals in draught were used in the plains, the ascent to the plateau and the back areas on the plateau. Pack animals were used on the bridle paths up the mountains to the plateau and in the forward area on the plateau.

Animals Employed.—(1) Heavy draught horses; (2) light draught horses and mules; (3) pack mules.

The work of the heavy draught transport horses was confined to the plains, although the heavy draught horses of the pontoon pack were employed in transporting R.E. material from Thiene railhead to the plateau, working on the middle

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road in the sector; this was done in three relays. They suffered at first from lack of hard condition, change of work, altitude and temperature, also from the jar when coming down hill, but improved later on and did much better than I anticipated; at the same time it is inadvisable to use heavy draught horses on mountain work.

L.D. horses and mules were used for draught work from the plains to the plateau and on the plateau.

Only mules were used as pack animals. For this work the infantry transport was increased by 40 mules per battalion.

System of Working the Horse Transport.—The most satisfactory method was to work in relays (Dak method).

The transport was pooled and worked under the O.C. train.

H.D. horses drawing G.S. wagons were employed between railhead and brigade dumps on the plains.

The transport required to take supplies to the plateau were divided into advanced and rear wagon lines. The animals of the advanced wagon lines lived on the plateau and worked between the plateau and the halting stage. The animals of the rear wagon lines lived in the plains and worked between the brigade dumps on the plains and the halting stage, each wagon line having its own transport officer.

G.S. limbered wagons were used and four animals in a team.

At the halting stage the animals were unlimbered, watered and fed and the limbered wagons changed over. This system proved satisfactory because:—

(1) The work was regular and lighter than going the whole distance to the plateau; it was estimated that the animals of each relay worked about six hours.

(2) The animals did not experience the great variance of temperature and altitude between the plains and the plateau. Travelling the whole distance in one day was tried, and it meant about seven or eight hours hard pull, the animals arrived very hot and exhausted, and had to experience a great fall of temperature all night on the plateau, probably standing in the open; the next day they returned to the plains, and rested the third day. This system had disadvantages because it was not regular but spasmodic work.

(3) The animals returning to their own lines were not subject to any change in stable routine.

(4) It was easier for feeding and watering arrangements than constantly changing camp.

(5) The animals and personnel were under better supervision.

(6) It prevented chopping and changing of animals.

At one time half-limbered G.S. wagons were drawn by a pair of animals, but the vehicle was badly balanced, throwing too much weight on the animals' necks, particularly when coming down hill.

Cases are on record where mules, working in draught, carried stores to the plateau and returned to camp the same day, doing a distance of 60 kilometres with very little water, if any, on the journey to and from the plateau, and working about 14 or 15 hours. Needless to say these cases were discouraged.

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The pack mules working on the bridle paths to the mountain principally carried S.A.A.; they were able to go to the plateau and return the same day quite easily. It took them 3½ hours to ascend and 2½ hours to come down. Each pack mule carried 200 lb. weight, including the 40 lb. saddle.

Remarks on the Animals.—The H.D. horses were a good stamp and kept their condition very well.

The L.D. horses and mules were principally Americans—on the whole they were good.

In the early days the pack mules were rather a mixed size, many being over 15 hands, and as there was a shortage of forage at one time they were reduced to 4 lb. of oats a day, but as things improved this was rectified by an order that all animals over 15 hands were to receive the ration of a light draught.

The mules in the pack train were a very good stamp.

In pack work one man per mule was employed; this is after the Italian system. As an example of the mule's capabilities as a worker: shortly after the Austrian offensive 20 pack mules of one battalion on the plateau worked 18 hours a day for eight days; they carried 500 screwed pickets, 600 rolls of wire, changed four water dumps (240 tins at each dump), battalion rations and water (500 gallons of water a day), changed S.A.A. and L.T.M. dumps. They were stabled well forward, and worried at night with shell fire. I saw them on the ninth day, and they were then beginning to show signs of this strenuous work.

Italian Transport.—I visited an Italian Transport Company. There were 60 pack mules—small type, standing 13.2.

The system was to work these alternate days, doing about nine hours on working days. They were only groomed on non-working days when several hours were spent in grooming. They were certainly looking very good in their coats and in good condition.

The diet was:—

Oats	2½ kilos.
Bran	½ kilo.
Hay	5½ kilos.
Straw	2¾ ,,

On non-working days the mules were taken out of the stables and linked in a ring with their heads inwards; this is quite a common practice in Italy and has many advantages.

March Discipline.—Our transport drivers soon learnt the difference in mountain work and riding with a convoy on the level, and at first they were not so good in keeping the whole team in draught as either the French or Italians.

The French drivers were splendid with their eight-horse teams taking the hair-pin turnings going up hill, every trace was taut and *horses and men* were doing their bit.

Patrols were posted on the roads. Going up the hill the wheel blocks were always trailing so that a halt could be called at any time. Frequent short halts

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were encouraged. Going down the hill the pair of leaders were unlimbered and a man walked behind the limber to function with the brakes.

Saddlery and Harness.—The Indian pack saddle was used and there were no cases of sore backs attributable to the saddle itself. Sore withers were caused by using a saddle blanket under the saddle, due to the blanket working down and causing a dead pressure on the withers, and by decreasing the width of front arch, even recognizing that the use of the saddle blanket prevents dirt and grit working their way between the animal's back and the saddle, yet I fail to see an advantage in using a blanket under a saddle with properly stuffed panels. Units which did not use the saddle blanket remained free from saddle injuries. In order to prevent foreign bodies working between the saddle panel and the skin the Italians join the upper edges of the two panels with a strip of loose leather running the whole length of the saddle, so as to form a covered arch over the back-bone, without touching the bone itself, similar to the arch formed seat in a military saddle. This method was adopted by us, and when leather was not procurable canvas was used, which proved satisfactory. The Indian pack saddle weighs about 40 lb., the Italian saddle is 10 lb. heavier, and excessively padded, with a tendency to narrow the width of the upper part of the saddle. The girth is fastened by a leather thong to a ring, which our troops found difficult to adjust at first.

Other injuries were due to wrongly adjusting the various strappings of the pack saddle. For example: the double girths were not crossed; the breast strap and breeching were left too loose; the cruppers were not used; the neglect of these caused oscillation and displacement of the saddle, producing uneven weight when moving up or down the sharp inclines.

A pack school was formed which did a great deal to enlighten the novices in mule draught work. The transport was placed at a disadvantage in the early days for the want of mule harness; some units had to make shift with horse harness, the breast band was so wide that it interfered with the play of the shoulder, causing a gall. Again, at one time it was the old story of new harness and new animals, meaning hard harness and soft animals.

Colonel H. Wilson, Cheshire Yeomanry, as Corps Horse Adviser, spent hours instructing transport officers in march discipline and in fitting harness and saddlery. As a means of reducing harness and saddle galls a veterinary aid post was established at or near each halting stage. The veterinary personnel inspected all animals, paying particular attention to their shoulders, which were dressed with salt and water, lead lotion or petrol, even if the skin was not broken. Any animal with a gall was either thrown out of work or its work changed. In this way during the whole time the British force was in the mountain sector, although there were several cases of sore backs and harness galls, yet they were all minor cases, and there was not one case of a single animal suffering from a saddle or harness gall which had to be destroyed as incurable.

Shoeing.—The mules were shod with the Italian summer pattern mule shoe. This shoe is a thin, very broad web shoe with the heels turned down to form calkins.

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When applied to the foot the outer margin of the shoe extends beyond the wall of the foot.

The winter Italian pattern mule shoe has sharp calkins and toe-piece not unlike an inverted clip; it was never necessary to use this shoe.

Colonel F. Wilson, A.V.S., as D.D.V.S. introduced the Italian pattern shoe. He arranged for special courses of instruction to be held at the veterinary hospitals and certain units for farriers and shoeing smiths.

The farriery personnel disliked the shoe because of its apparent coarse nailing, but as the shoe had to be fitted wide there was no danger. The shoe proved more satisfactory than the English pattern for mountain work—the broad web ensured protection to the sole, the shoe overlapping the wall of the foot protected the wall, and the calkins gave a better grip.

On the plateau, brigade central forges were established for the advanced wagon lines; this system gave better opportunities for supervision of the work.

Among the horses in the plains many cases of brittle feet occurred, due to the practice of taking horses into the river to water; the friction of the sand on the walls of the feet removed the periople and permitted rapid evaporation.

Forage.—As may be expected on active service, particularly during the spring of 1918, there was one period of short forage rations. At one time the oats were reduced by 2 lb.; this particularly affected the mules doing pack work, as they were only entitled to 6 lb. of oats per diem and a 2 lb. reduction left them with only 4 lb., but this was remedied by reclassification of mules.

This reduced oat ration was only for a very short period.

The hay ration was increased to a flat rate of 12 lb., which included substitutes, as straw, lucerne and green fodder.

At one time the hay ration was composed of 50 per cent. of straw, but this was reduced to 25 per cent., as it was observed that the large percentage of wheat straw lowered the digestibility of the food and was the cause of impaction of the bowels and debility.

When the grazing and green fodder were available on the plains and the weather was severe on the plateau the majority of the hay ration was sent to the plateau, as these animals were working under disadvantages to those on the plain.

The advanced and rear wagon lines had chaff-cutters.

Water Supply.—There was no question of shortage of water in the plains, the River Astico being the main source of supply. The water was cold and not always appreciated by the horses. At the halting stages water was plentiful at Scieserre and Cava le Tese; at both places water was laid on. On the left road there was no watering place at Campiello and units working on this road had to carry water for the animals in petrol tins; as a matter of fact it was an order to carry water on all transport work up the mountains in cases of necessity. On the plateau there was no difficulty of water on the right sector; there was a large pond at Granezza, which was wired and the water pumped into troughs.

On the left sector there was at times a scarcity of water, but with construction of tanks in catchment areas there was never a serious shortage. Great precaution

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was taken to prevent troops watering their horses from the public water troughs in villages and at Sciezzee.

As a means of prevention of sand colic units were supplied with water troughs and the water pumped through a filter.

Weather.—April was a particularly cold, wet month, and even the animals on the plains had a worse time than during the winter on the Piave.

When it was raining in the plains it was snowing in the mountains, with a bitter wind blowing, particularly at Carriola.

In the spring and autumn there is a marked fall of temperature at sunset, which is very trying for animals, particularly to those working late in the afternoon.

During the summer months the animals thrived better on the plateau than those on the plains; this was due to the cooler climate, plentiful grazing, and the absence of flies. It was observed that animals brought down from the plateau to the plains invariably fell off in condition.

The flies were very bad, and although various methods were adopted to eradicate the nuisance, yet it is very difficult to keep time with the insanitary conditions prevailing in an Italian village.

In September the weather was much cooler, with rain on the plateau, and the nights were very cold.

Animals working on the mountains were all supplied with rugs, and in the spring two rugs per mule were issued.

Remarks on Casualties and Veterinary Arrangements.—(1) *Debility.*—8·53 per cent. horses and 7·53 per cent. mules, of the animals in the forward area, were evacuated to the veterinary hospitals for debility. There is no doubt animals advancing in years felt the strain of mountain work and the change of altitude. A census of age was made in the artillery horses; these were 36·4 per cent. over 12 years and 16·62 per cent. over 15 years.

Broken Wind and Roarers.—0·63 per cent. horses and 0·27 per cent. mules.

Animals with lung and heart affections are quickly found out in this kind of work.

Digestive Diseases.—8·11 per cent. horses and 2·07 per cent. mules.

Digestive diseases were principally due to sand.

There was a danger of contamination in the water supply and picking up sand and gravel on the lines. The animals became unthrifty and lost condition. The following precautions were ordered :—

(1) Water troughs and filtered pumps to be used.

(2) Permanent standings, particularly in front of standings to be made.

(3) To feed principally from nose-bags, two-thirds of the hay to be given as chaff.

(4) To damp the feeds to prevent the feeds being spilt.

(5) To report at once any symptoms of colic.

(6) When standing in the lines the animals to wear two baggage straps, one passing over the poll, the other round the muzzle and both linked at the back of the jaw; these two straps will prevent animals feeding off the ground.

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Mange.—0·79 per cent. horses and 0·56 per cent. mules.

Considering that there were a very large number of cases during the winter because units coming from France did not clip out their animals, and that the British force took over an area where mange had been prevalent, these figures are very low and due to :—

(1) Early evacuation to the veterinary hospitals of suspected cases.

(2) Evacuation of in-contacts.

(3) Supplying M.V. sections with six brazier lamps so that billets could be disinfected on occupation.

Glanders.—There was not a single case of glanders during the whole time the British force was in Italy.

Saddle and Harness Injuries.—2·29 per cent. horses and 7·4 per cent. mules :—

Sore backs or wither galls	107 cases.
Harness galls (sore shoulders)	173 ,,
Collar galls	220 ,,
Girth galls	92 ,,

Battle casualties during the Austrian offensive :—

	Killed.	Severely Wounded.	Slightly Wounded.	Total.
Horses	9	6	5	20
Mules	53	35	53	141
				161

All battle casualties were injected with anti-tetanus serum. There were only two deaths from gas poisoning.

Veterinary Arrangements.—Veterinary aid posts, furnished by a detachment from the Mobile Veterinary sections of the divisions in the line, and R.A.V.C. sergeants attached to units, were established in echelon formation on the plateau and the roads leading up to the plateau.

On the plateau these posts were located at Granezza, Carriola and Monte Serona.

On the roads leading to the plateau there was an aid post at the halting stages : Piazza (for the halting stage at Sciessere), Campiello and Tese.

There were two veterinary officers on the plateau, one posted to each sector, who was responsible for the work at the veterinary aid post on the plateau.

At each post there was stabling accommodation for four or five patients. At Granezza a temporary stable was erected to accommodate 20. The patients were sent down to the plains in relays, using bridle paths as much as possible.

The left sector evacuated their sick to the M.V. section located at Camisino, and the right sector to the M.V. section at Fara ; nearly all cases requiring treatment were dressed at the aid posts, and

4,443	cases	in the	British Army.
84	,,	,,	French Army.
929	,,	,,	Italian Army.
Total 5,456	were dressed there.		

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The sick sent down from the plateau were collected at the M.V. sections.

At Thiene a Veterinary Evacuating Station was opened on June 6th, 1918. This unit was responsible for conducting the sick animals to the Base Veterinary Hospitals at Cremona and Voghera, from 12 to 24 hours journey by train.

In conclusion, I think the following points should be considered in mountain warfare:

(1) *Class of Animal.*—A mule should be selected in place of a horse. The smaller the mule the better, as long as it can carry the weight; if possible take the mule of the country.

(2) *Age.*—Animals very young or advanced in years will fail. The best age is from six to ten years. They must be sound in foot and wind.

(3) *Condition.*—It is a mistake to think because the work is at a walk that you can condition your animals when working on the mountains. It is essential that the animals are physically fit for hard work before you send them on mountain work.

(4) *March Discipline.*—Particular care should be paid to march discipline, and patrols should be posted *en route.*

(5) *Work.*—Must be gradual at first; give frequent halts to avoid heavy strain being thrown on the animals.

(6) *Care of Harness.*—See that the harness and saddlery are in good condition and well fitting.

(7) *Inspection of Transport before moving off.*

(8) *Good Shoeing.*—Do not be too conservative in your ideas; investigate local methods.

(9) *Organization of Transport.*—The system of relays appears the most satisfactory.

(10) *Hours of Work.*—Work must be calculated by the hours and not by mileage —six hours is a good day's work.

(11) *Altitude and Temperature.*—Altitude affects the work of the animal, also the variance of temperature between the plains and plateau must be appreciated, in other words, the animal must become acclimatized to new conditions.

(12) *Clothing.*—As there is generally a marked fall of temperature at sunset, do most of your work in the mornings, and the animal should always be issued with a rug.

(13) *Food.*—The animals doing the hardest work want the most food and of the best quality.

(14) *Water.*—Particular attention must be paid to watering arrangements. It is impossible to water too frequently; always carry water in case of urgency.

(15) *Obtain Veterinary Inspection at the Halting Stages.*—If an animal is galled he must be thrown out of work at once, or the work so changed that the gall is not interfered with.

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(16) *Evacuation of Sick.*—Early evacuation of sick is necessary; a unit to be mobile must have fit animals, and be relieved of all unfit animals which would affect mobility and the general health in the units.

(17) *Finally*, investigate local customs and methods as regards work, feeding, equipment and shoeing; do not ignore them because they are foreign to you, but consider them and improve on them.

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REVIEWS.

The History of the 6th Cavalry Brigade, 1914-1919. By Lieut. J. B. Bickersteth, M.C. (Sanders Phillips & Co., Ltd., The Baynard Press, London. 8/-). Crown 4to, 124 pp., 15 maps, 5 photos. illus. Price 21/-.

Field-Marshal Earl Haig, in his foreword to this excellent book, speaks of it as a " straight-forward account " ; the author himself calls it " a simple unvarnished narrative." Simple it is in the finest sense of the word. A direct soldierly account of great happenings by one who has taken a direct soldierly part in them. There is no attempt here at " journalese," no straining after theatrical effect ; the author deals with great events in the only great manner—that is, in the simple manner. But because the author does not strive after effect, the effect is all the more emphatically there. Every English reader will be profoundly stirred by this " unvarnished narrative " of the doings of a famous British cavalry brigade between the years 1914 and 1918.

The popular notion has been that the cavalry played very little part in the Great War—that modern warfare tends to eliminate the trained cavalryman from any important part in up-to-date fighting. No one who reads this book will be under any such delusion for very long. The cavalryman, as Field-Marshal Haig testifies, and Lieut. Bickersteth, M.C., manifestly shows, is on the whole the best trained all-round soldier in the British Army." He might, in fact, be termed an " all-round virtuoso " of fighting. He could use rifle and bayonet, could throw bombs, and was an excellent shot with the Lewis gun. He had his own machine-gun squadrons, and in the trenches proved himself again and again very reliable for " shock " action. It was this versatility of the cavalryman, combined with his mobility, that was responsible for such heavy claims being made upon his powers and endurance. Wherever the attack was heaviest, wherever our troops were suffering most, there the cavalryman was wanted, was sent, and never failed to " make good." So far from the cavalry being an arm of limited use in stationary warfare, it is, as Lieut. Bickersteth shows, a vital necessity even in trench warfare ; it is the arm of exploitation which has rendered services of the utmost value, and one which Earl Haig considers in his most moderate language has " still a very important part to play in war."

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Apart from the excellently simple prose style of Lieut. Bickersteth a word might be said for the whole " get-up " of the book. The type, margins, and above all the excellently printed maps make the volume a very workmanlike production.

Through Deserts and Oases of Central Asia. By Miss Ella Sykes and Brig.-General Sir Percy Sykes, K.C.I.E., C.B., C.M.G. Macmillan & Co. 1920.

The latest book of travels in Chinese Turkestan with a sketch of the government, commerce and history. The travellers left home during the War before the Czar's abdication and railed from Petrograd to Tashkend and Andijan, riding thence to Kashgar, Yarkand and Khotan, the jade country.

The Khirgiz, it appears, are Mussulmans of the Sunni sect and their funeral rites include horse-races.

During a trip to the Pamirs after a fortnight's march the author had some *Ovis Poli* stalking and writes as follows of this gigantic sheep :—" The summer coat is lightly speckled and the legs are white, but in the winter the ruff becomes pure white. The height at the shoulders exceeds 12 hands and the weight may be about 22 stone. The length of the horns is enormous, one specimen, believed to be the longest on record, measuring 6 feet 3 inches from tip to tip." He then gets to work with his rifle on the last pages of the book :—" I told Nadir to bend down and, using his shoulder as a rest, was able to aim steadily at the big ram, which, after stopping for a moment to gaze at us, was moving off at a slow pace." The ram was shot through the heart at 300 yards. It was a six-year-old specimen with a perfect pair of horns measuring 51 inches.

Modern Pigsticking. By Major A. E. Wardrop, R.H.A. Macmillan & Co. 1914 Price 12/6. Reviewed by Lieut.-General M. F. Rimington, C.B., C.V.O.

Major Wardrop's book, " Modern Pigsticking," was published at the end of 1914, after war had broken out. The author must be well known to many of our readers, not only because of his very distinguished service during the War, in the course of which he rose to the rank of Major-General, but also because he stood out pre-eminent as the greatest living authority on pigsticking and the hardest man to beat after pig in India.

One cannot help wondering if this book received the recognition it deserved—the style as delightful as that of Surtees, the subject one which must necessarily appeal strongly to one and all of the readers of this Journal, the talented illustrations all make one long to be back at this grand sport, India's rival to " the sport of kings."

Some forty years ago, when I was travelling to South Africa to join my regiment, a medical officer, with whom I had struck up an acquaintance on board, asked me " Have you got 'Cavendish on Whist' ? " I answered " No," and he replied " My God ! You're lost." One might well make a similar comment to any young officer equipping himself for sport in India and neglecting to include a copy of

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" Modern Pigsticking." May some equally skilled and ardent votary of fox-hunting come to the help of the " young entry " with a similar book on modern fox-hunting.

Sitting in my arm-chair, like the sportsman illustrated on the last page of the book, my vision conjures up " The Master " riding silently and alone, his eyeglass screwed immovably into position, his back rather humped, without apparently a care in the world, behind him the " stately crashing line " of more than fifty elephants, a hundred and fifty beaters, the scores of sportsmen, their syces and horses, all the vast array of the Kadir Cup, move slowly forward, and out in the distance there are the heats, two or three little knots of horsemen, waiting for a boar to break forward. Farther away still I can see a heat in hot pursuit of the quarry.

The perfect organization which controls the whole might well arouse the envy of a field master in a fashionable country, and this doubtless was the secret of Wardrop's success in controlling an army's artillery during a big attack on the Western front.

What a fascination there is in pigsticking—man and horse all out, engaging a swift, crafty and dangerous animal in a battle to death ! In every page of this book may be found some sterling sentiment or piece of sound advice for any officer going to India. It is redolent of the atmosphere of India, the true India, not the imaginary India of the accursed politician. It is written by one who loves and is loved by the simple villager of the plains. This is not a book to read through once, but one to keep by your bedside ; flanked by Handley Cross and Whyte Melvill's " Riding Recollections."

India is a land with many varied possibilities of sport, but not one has the thrill of pigsticking. I look back with regret that never again will a *mahseer* run out 200 yards of my line in a heavy water, nor will I hear a tiger greeted by the beaters with a pandemonium of sound, nor the whirr of a thousand duck rising from the *jeel*, but most of all would I like to hear the " *soor, soor woh jata hai* " as the mighty boar is roused from his lair in waving Kadir grass, and to feel the responsive thrill of a brave blood horse, as he too views our flying quarry.

So let me urge every horseman who visits India to loose his purse strings and determine that he too will play his part in this the most glorious of sports.

" The Modern Horse," Series No. 1 and No. 2, by Major R. S. Timmis, D.S.O., Royal Canadian Dragoons, published by Foster, Groom & Co., Ltd., Charing Cross, London, at the small cost of one shilling and sixpence each, are of first class value to all lovers of horses or to anyone just starting a stable.

No. 1 deals with horse mastership, and in this many valuable hints are given to all pertaining to the success of running a satisfactory stable and keeping horses not only in good condition, but also well trimmed and turned out.

No. 2 deals with notes on riding and driving, and is of great interest throughout, and the writer gives many of his own personal experiences and the lessons he learnt from them.

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The two books are of a convenient size to be carried in the pocket, and the writer has to be congratulated on the thoroughness in which he has gone into all details.

E. P.

Back numbers of The CAVALRY JOURNAL from No. 2 (1906) to No. 35 (1914) can now be supplied at 3s. post free. These form an encyclopædia of knowledge invaluable to the horseman and the military student. A limited number of annual volumes bound in white cloth, also covers ready for binding, are available. Prices on application to The CAVALRY JOURNAL, Royal United Service Institution, Whitehall, London, S.W.1.

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NOTES.

CAVALRY AND TANKS.

I HAVE read with interest Colonel Fuller's last instalment on "Tanks and Cavalry Tactics," and also "The Defence of the *Arme Blanche*" by my friend Lieutenant-Colonel Howard Vyse, with whom I had the pleasure of serving on several occasions both in France and with the E.E.F.

I offer here a short comment as it appears to some of us out here in India, taking into consideration recent events in Persia, Mesopotamia, and the Frontier.

Colonel Fuller's remarks are inclined to strike one as being too general, and to be based entirely on what would now appear to be abnormal conditions.

One war seldom if ever resembles another; and I do not think that the campaign in France and Flanders can be looked upon as a sealed pattern. Experts after the South African War were inclined to fall into this trap, only to be disappointed in the next campaign, and so on. And we may find out only too clearly in the future that the right-hand man of the last campaign has become the least important man in the coming one.

So why be in a hurry to jump to conclusions?

In France and Flanders we see a far larger proportion of men to mileage than ever occurred before, a net-work of railways and good roads in rear of each army, which made communication with any part of the front possible with little or no danger to the lines of communication.

Can anyone prophesy that this will be invariably the case even in Europe? I doubt it, taking as instances the various campaigns in Russia.

If that is so, and if it is agreed that in future campaigns there is every possibility of open fighting, long advances or retirements which bring about the necessity of having the most mobile of reserves, which can traverse more or less any country, why do away with your most useful force, the cavalry?

Before coming to actual facts which occurred in the War, there are one or two points I would like to bring out in connection with Colonel Fuller's article.

(1) He claims that Napoleon used his cuirassiers as tanks to break the infantry; this I cannot agree with. I do not consider that Napoleon ever considered it feasible to charge unbroken infantry of any mettle with the idea of breaking them. He charged them to make them form square so as to have a good target for his guns (Napoleon was essentially an artillery man), and if the combined action proved successful in disorganizing the enemy, charged with his main body of cavalry to complete the rout of an already disorganized enemy.

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I do not wish, however, to assert that cavalry have not charged and broken up an infantry force, because I know they have, and will again whenever the opportunity occurs.

(2) I would much like to know from Colonel Fuller's deductions how many cavalrymen are represented by a tank. From his article he is inclined to give the impression of comparing one tank with one cavalryman.

(3) On his basis what is the comparative cost to the State, of tanks and cavalry, taking into consideration carriage, consumption, mechanical experts in one case, and veterinary experts in the other? Only on hearing an answer to these points is it possible to give an adequate comparison in visibility, vulnerability, etc.

Now to come to the actual events of the War. As Colonel Howard Vyse remarks: "Cavalry in *large bodies* becomes the decisive arm." This never occurred in France. Again, he says: "The chances for cavalry in France were reduced by their relative weakness."

This, to my mind, is the key to the whole argument.

Colonel Howard Vyse has so admirably stated the case for the 1917 Palestine campaign that there is no need to touch on it.

In the 1918 campaign, however, I think both writers have missed the point. Colonel Fuller states that "the Turks' morale was on the downward grade, and that the British cavalry galloped, not at, but through the retreating fragments of the Turkish forces."

To one, such as myself, who accompanied the advanced troops from Jaffa to Aleppo, this appears beside the point.

Why was the morale of the Turkish Army on the downward grade, and why did it decline to such an extent that it eventually disappeared?

Lastly, why was it only necessary to "gallop through the retreating fragments"?

The answer to me seems only too plain. Because "cavalry in large bodies becomes the decisive arm" when it traverses hills by a goat track, hills which no tank yet built could have traversed in a year; because a column could march over sixty miles in twenty-four hours in spite of those hills, and 600 miles in five weeks; because the cavalry as a whole never allowed the enemy to be anything else but retreating fragments until all the fragments had been destroyed or captured.

I do not think that the tanks could have taken the cavalryman's place, and done the same; and yet it is admitted that it was the cavalry who completed the destruction of the enemy's army.

Also there is every possibility of a bullet being invented which would make the tank (with its innate clumsiness as compared with a horseman) as vulnerable, if not more so, than a cavalryman.

Lastly, I would point out that a horse is not so vulnerable as people are apt to imagine, and what is more important still, that we have a first class organized force of cavalry who are proud of themselves, which would merely be ruined by any attempt to convert them into some form of hybrid mounted foot.

AN INDIAN CAVALRY OFFICER OF THE OLD 5TH CAVALRY DIVISION.

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SPORTING NOTES.

THIS number of the CAVALRY JOURNAL is produced under new auspices. We are sure every reader of the Journal will regret to hear that Lieut.-Colonel Sir Arthur Leetham has had to resign the post of Hon. Managing Editor. Sir Arthur was one of the leading spirits at the birth of the Journal and has fostered it with great care ever since. Its success is mainly due to his untiring efforts, and when the War started the Journal was a sound proposition. During the War, owing to Sir Arthur, and most others, having to work for their country, the Journal could not be published. After a lapse of five years it is nearly as difficult to resuscitate a paper as to start one. Subscribers have to be hunted up and new advertisements found. Last March Sir Arthur issued another number, the previous one being for July, 1914. Owing to the extra cost of printing and everything else the price of the Journal had to be doubled, but subscribers who had paid during the War still get the Journal at the old price. Every effort must be made to induce more people to take the Journal.

The Committee of Management have been successful in arranging for a temporary Hon. Managing Editor, and we are certain that, in his able hands, the Journal will again become prosperous.

We are sure all readers will join in a vote of thanks to Sir Arthur Leetham for all that he did for the CAVALRY JOURNAL.

It is proposed, later in the year, to give him a dinner and a small presentation to commemorate his hard work.

But now to business and the Sporting Notes :—

RACING.

GRAND STEEPLECHASE DE PARIS.

Two of our most famous jumpers were sent to compete for this event, Troytown, who won last year and also our Grand National last March, and Poethlyn. Disaster attended their efforts. The latter broke down and Troytown only managed to get third.

GRAND STEEPLECHASE DE PARIS OF 6,000 SOVS. (4 miles, ½ furlong).—M. Ch. Lienart's gr. h. Coq. Gaulois, by Royal Dream—Confiserie, 5 yrs., 10 st. 6 lb. (Head), 1 ; M. H. Coulon's Heros XII., 5 yrs., 10 st. 6 lb. (Mitchell), 2 ; Major T. Gerrard's Troytown, aged, 11 st. 5 lb. (Mr. Anthony), 3 ; Mrs. Hugh Peel's Poethlyn, aged, 11 st. 5 lb. (Escott), 0 ; M. L. de P. Machado's Makurino, aged,

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10 st. 5 lb. (Thibault), 0; Marquise de Triquerville's Hydravion, 4 yrs., 9 st. 7 lb. (Barre), 0; M. G. Christophe's Raclee Boche, 4 yrs., 9 st. 7 lb. (Haes), 0; Comte de la Cimera's Simpri, 4 yrs., 9 st. 7 lb. (Parfrement), 0. Won by four lengths; the same distance between second and third.

A few days later Troytown had the misfortune to break a leg, and this good chaser had to be destroyed. He was only seven years old and looked like winning many more races. Very bad luck for his owner, Major Gerrard.

For the big hurdle race Trespasser was sent over and would have started a hot favourite. He hit his leg the day before the race and could not run.

The Grand Prix de Paris.

Better luck attended the English horses in this race, which was won by Comrade, a stable companion to Spion Kop, the Derby winner. The latter was expected to win but did not have the best of luck in the race. Comrade was bought as a yearling by Mr. Gilpin, for £25, and has still to be beaten.

M. E. de St. Alary, a keen French sportsman, obtained a half share in the horse for, it is said, £6,000.

Mr. Gilpin also trained Spearmint, who won this race and also the Derby. This was another cheap yearling, only costing Major Loder £300. A contrast to this is the yearling Lord Glanely bought for £11,500 last year. He is now called Westward Ho! He has not appeared on a race-course yet, and we hear he has bad thorough-pins and may never run.

Mr. W. Williams had better luck. For Syrian Prince he gave 8,000 guineas at Sir John Robinson's sale and has already nearly got the money back. Several other high-priced yearlings have also won races.

Last year at Doncaster 16 Sledmere-bred yearlings realized the prodigious sum of 61,300 guineas. This is the most famous stud in England and for many years the yearlings have been sold at the Doncaster sales. This year there are 17 yearlings at Sledmere and we expect to hear of another record sale. The best of mares have always been kept at this stud and the most fashionable and expensive sires used. The above-mentioned Spearmint was Sledmere bred and about the cheapest one ever sold from this stud.

Ascot.

In the next number will be a picture of Lord Glanely's seven winners at Ascot last year. This was a record to be proud of. The luck of the Turf is extraordinary. Last year he carried all before him, but this year his horses have been out of form and won very few races.

We hear from Australia that a good class steeplechase horse called Kinlark has been presented to the Prince of Wales. This horse won the Australian Steeplechase, and is now to be shipped to England. We look forward to seeing the Prince's colours carried successfully on English race-courses.

Moifaa, an Australian horse, won the Grand National in 1904. He was afterwards bought for the late King Edward, who hoped to supplement his win with

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Ambush II. of 1900. This he failed to do and was eventually given to Lord Ranksborough, who hunted him for many seasons in Leicestershire. Moifaa was a very big bold jumper, and seldom touched a twig in a fence. This is what is wanted for the National fences, but these horses seldom win at other meetings, where liberties can be taken with most of the fences. We hope Kinlark will follow in Moifaa's footsteps and also win the Grand National.

HUNTING.

By the time this Journal appears cub hunting will have started. It is reported from most counties that cubs are plentiful, and owing to their raids on poultry it is time their numbers were reduced. It has been a very wet July, so the harvest in many parts will be late, which will rather interfere with an early start. Most hunts have held their puppy shows. In many cases the entry has not been up to the numbers in pre-War days. This was only to be expected, taking into account the reduction of hounds during the War, and the small numbers bred. The price of hounds will be high for some years. The Masters of Foxhounds Association has had an anxious time. They did their best to settle the dispute in the Whaddon Chase country, and everyone thought this had been accomplished. Now we hear a few farmers in the country threaten to start a farmers' pack. This is hardly playing the game. At the meeting, when the original dispute was settled, the farmers were largely represented and agreed to abide by the decision. Now a few of them propose to make more trouble. This reminds one of several strikes that have taken place lately. When the matter has been put to arbitration, the men being represented by their unions, on several occasions the masters and the union officials have agreed to terms which the men afterwards repudiated. This is a very impossible state of affairs, and reminds one of Russia of to-day.

Another dispute has also arisen in the Essex Union country. Prior to the War a small part of this country was hunted by a farmers' pack of harriers. During the War the master of the Essex Union allowed them to hunt foxes in part of the country. Now this pack claims the right to hunt foxes in a larger part of the country at any time they like. For the sake of peace the Union Hunt offered to allow them to hunt foxes in part of the country with definite boundaries. This sporting offer has been refused and so the matter stands. The Masters Association supports the Essex Union, and quite rightly refused a licence to the farmers' pack to hold Point-to-Point Races last season. If this kind of thing goes on we shall soon hear of hunting being abolished or put under control of a Government Department. We don't quite know which would be the worst.

Some time ago we saw an official report from a Government Department which was too funny. It was about lending Government mares to farmers for breeding. Unfortunately, right through the report the word "gelding" was used instead of "mare" on every occasion. One remark made was: "If the gelding does not prove in foal"!!! This Department, I expect, would use the stallion hounds for breeding hunters.

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We are sorry to hear that another case of rabies has occurred at Wilton, near Salisbury, and that the muzzling order has been put on for a radius of about 20 miles. The new boundaries are Winchester in the east, Bournemouth south, Maiden Bradley west, and Wroughton in the north. A mad dog has been known to travel 70 miles and to be captured that distance from his home. A 20-mile radius hardly sounds sufficient when an infected dog can travel so far.

The Board of Agriculture have, we believe, taken six months as the period when infection in a district ceases. We saw a report from one of their veterinary surgeons in which was stated that a dog under suspicion developed the disease seven-and-a-half months after being put in confinement. We are afraid that England is not yet clear of this dreadful disease, and more cases may be expected. If the muzzling order had been put on for the whole of the south of England when the first cases occurred near Plymouth there might have been more chance. Quarantine must be strictly enforced, and anyone importing a dog, say, by aeroplane, and avoiding it, ought to be sent to prison.

POLO.

On June 23rd the official challenge was received from America and the games will be played at Hurlingham next June. Major V. Lockett has been busy selecting a team to represent England and several trial matches have been played at Hurlingham. One of them, played on August 7th, was hardly a success for England, as "The Rest" beat the English team by 10 goals to 7. We think Major Lockett has not yet got the right combination.

The teams were :—

England.—Lieut.-Col. Tomkinson, Major Hurndall, Lord Wodehouse, and Major Lockett.

The Rest.—Lord Dalmeny, Lieut.-Col. Ashton, Lord Rocksavage, and Major Harrison.

We did not see this match, but apparently it was a very one-sided affair at the start, as on entering the third period "The Rest" led by 7 goals to 1. Later the English team played up better but never looked like recovering from the bad start.

Royalty, represented by King Alfonso and Prince Henry, have been playing polo in London this summer. The latter is now attached to the 13th Hussars at Aldershot, where he will get as much polo as he wants and in a good school, too. This regiment captured the Subalterns' Cup at Ranelagh last month.

Inter-Regimental Tournament.

Sixteen teams entered for the Cup, but unfortunately, owing to being in Ireland, the 15th Hussars and the 12th Lancers could not send their teams over. The Welsh Guards also scratched. The 17th Lancers were the favourites and eventually won the tournament. They are represented by a strong team of pre-War players who have played together for many years. Two of them, Colonel Melvill and Major Lockett, played for the English team which won the Olympic Tournament at Ostend this season.

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First Ties.—2nd Life Guards beat Coldstream Guards, 9 goals to 4; Royal Horse Guards beat 1st Life Guards, 6 goals to 5; Royal Scots Greys beat 7th Hussars, 7 goals to 4; 4th Dragoon Guards beat 14th Hussars, 9 goals to nil; 17th Lancers beat 13th Hussars, 12 goals to 2; 3rd Hussars beat 4th Hussars, 7 goals to 6; 15th Hussars, w.o., 12th Lancers, scratched; 5th Dragoon Guards, w.o., Welsh Guards, scratched.

Second Ties.—2nd Life Guards beat 5th Dragoon Guards, 8 goals to 1; 17th Lancers beat 3rd Hussars, 9 goals to 3; Royal Scots Greys beat 4th Dragoon Guards, 8 goals to 6; Royal Horse Guards, w.o., 15th Hussars, scratched.

Semi-Finals.—17th Lancers beat 2nd Life Guards, 12 goals to 3; Royal Scots Greys beat Royal Horse Guards, 9 goals to 2.

Final.—17th Lancers beat Royal Scots Greys, 9 goals to 5.

17th Lancers.—1, Lieut.-Col. T. P. Melvill; 2, Major A. F. W. Gossage; 3, Capt. H. B. Turner; back, Major V. Lockett.

Royal Scots Greys.—1, Capt. Pigot-Moodie; 2, Major Callander; 3, Capt. Scott-Robson; back, Capt. G. J. R. Cooper.

This match was played on July 3rd and Prince and Princess Arthur of Connaught were present. Most people expected it would be a very one-sided affair, and we met several officers who did not go, as they said it would not be worth paying the £1 entrance fee to see the 17th walking round the Greys. They were mistaken, as the Greys put up an excellent fight, and in the early part of the game fairly held their opponents, hitting the first two goals of the match. It was not till the fifth period that the 17th showed their superiority, but the Greys played up pluckily till the end. Major Callander had the bad luck to lose a good pony in the sixth bout, his mount breaking a leg.

Princess Arthur presented the Cup. This is the third time the 17th have won, the two previous wins being in 1903 and 1904. The Greys to date have never been successful.

Olympic Polo Tournament.

This tournament was decided at Ostend in the last week of July. There were four teams entered, representing England (holders), America, Spain, and Belgium. The first tie was won by Spain, who defeated America by 13 goals to 3. This was rather a one-sided game. Spain was represented by the Duke of Penaranda, the Duke of Alba, Count de la Maza, and the Marquis of Villabraguima. The American team was composed of four officers from the American Army of Occupation on the Rhine: Capt. T. Allen, Capt. A. R. Harris, Colonel N. E. Margetts, and Colonel J. C. Montgomery.

In the second tie England defeated Belgium by 8 goals to 3.

England.—Lieut.-Col. Melvill, Major Barratt, Lord Wodehouse, and Major V. Lockett.

Belgium.—M. Tysen, M. C. van der Straeton, M. Alfred Grisar, and Baron P. de Nieuroburg.

The final, between England and Spain, was a very well contested and exciting game, all the players playing up to their best form, and ending in a victory for

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the holders by 13 goals to 8. The Cup, originally presented by Hurlingham, therefore remains in England. We must congratulate Spain on putting up a very good fight against such a strong team as England put in the field. The Spanish ponies were a very good lot and the Duke of Penaranda, as usual, was beautifully mounted.

The Champion Cup.

This tournament, the chief one of the London season, received an entry of eight teams and was won by the Old Cantabs, who beat Cowdray in the final by 8 goals to 4.

Old Cantabs.—1, Capt. G. Heseltine; 2, Major Ivor Buxton; 3, Mr. W. Buckmaster; back, Lord Wodehouse.

Cowdray.—1, Lord Dalmeny; 2, Hon. C. Pearson; 3, Lieut.-Col. Mathew Lannowe; back, Comdr. McGrath.

The other teams entered were:—Scouts, Foxhunters, Antwick, Freebooters, Pilgrims, and Swillington.

Mr. W. Buckmaster, a veteran at the game, is playing as well as ever, and it is a pity he does not see his way to play in the English team against America next year.

The Cavalry School have held a Polo Tournament, six teams entering. In the final the Lilley Brook team easily beat Enford Grange by 11 goals to 4.

Teams.—Lilley Brook: Mr. T. Murray, Marquess of Worcester, Major Kingscote, and Mr. L. Sheddon.

Enford Grange: Capt. Darley, Capt. de Wend Fenton, Capt. Aizlewood, and Capt. Moule.

The 5th Dragoon Guards have again started the Polo Club at Colchester, and have held two tournaments with the assistance of some members of the 4th Divisional Staff.

A Record.—In the Brigade of Guards' Madrid Cup, played at Roehampton, what, we think, must be the record score in a game was obtained by the Coldstream Guards playing against the Welsh Guards. The former had to concede 5 goals start, and succeeded in hitting 27 goals without their opponents scoring. Some 15 years ago, in the Inter-Regimental Tournament at Preston Park, Brighton, the 20th Hussars won a tie by 26 goals to love, which is the nearest approach to the Coldstream record we can remember.

Ranelagh Subalterns Cup.

Eight teams entered for this event, but the 7th Hussars scratched and gave the 1st Life Guards a walk over in the first round. The other regiments represented were the 13th Hussars, 3rd Hussars, 4th Dragoon Guards, Royal Horse Guards, 17th Lancers, and the 2nd Life Guards. In the final the 13th Hussars beat the 1st Life Guards by 10 goals to 3.

The Hussars team was composed of Mr B. A. Stirling, Mr. J. H. Hirsch, Mr. D. Norton, and Mr. R. A. Ormrod.

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This was rather a one-sided game, as the 13th were obviously the best side. It is their first win in this tournament, which was started in 1896, when the 7th Hussars won, Maj.-General John Vaughan playing in the winning team.

The latest from America is that their team for next year may consist of Mr. Studdard, Mr. F. Hitchcock, Mr. M. Stevenson, and Mr. D. Milburn.

We hear the Greys have had a very good season at Edinburgh. There are 20 officers playing and between them they have nearly 60 ponies.

Irish Inter-Regimental Shield.—Final.

12th (Royal) Lancers v. *15th (The King's) Hussars.*—Under happier conditions than prevail at present a bigger entry would have been received for the Inter-Regimental Shield, which was competed for on August 18th, 1920, at the Nine Acres, Phœnix Park, by the 12th (Royal) Lancers and the 15th (The King's) Hussars. The absence of Col. Hon. D. Bingham, owing to a regrettable mishap some time ago, greatly weakened the Hussars' team, which, though on handicap four points a weaker side, made a plucky effort against an extremely well balanced combination. The victory of the Lancers by 7 goals to 5 was deserved. Both Mr. W. and Mr. R. M'Creery were always a big factor in obtaining goals and with Maj. Charrington and Maj. Reynolds always sure in their hitting, the side did most of the clever things witnessed in the game. Hussars made a great effort to get on terms in the concluding chukker, and perhaps deserved better fortune. Mr. Douglas and Mr. Meyrick did well and Capt. Leaf at back also played a resourceful game. Maj. Godman was seldom at fault and his goal in the concluding period was a characteristically good effort. Teams :—

12th (Royal) Lancers.—Mr. W. S. M'Creery, Mr. R. L. M'Creery, Maj. Charrington, Maj. A. B. Reynolds.

15th (The King's) Hussars.—Mr. G. V. Douglas, Mr. Meyrick, Maj. Godman, Capt. N. W. Leaf.

Umpires.—Mr. T. I. Roark and Capt. Roark.

Irish Subalterns' Cup.

This match was played at the Curragh on August 25th, 1920, between teams of 12th (Royal) Lancers and 15th (The King's) Hussars. The game was keenly contested and the latter team won by 5 goals to 3. The teams were :—

12th (Royal) Lancers.—Lieut. F. F. F. Spicer, D.S.O., Lieut. R. L. M'Creery, M.C., Lieut. W. S. M'Creery, Lieut. R. Straker, M.C.

15th Hussars.—2nd Lieut. C. Cockayne-Frith, 2nd Lieut. T. F. Meyrick, Lieut. S. P. L. A. Lithgow, Lieut. J. H. C. Wilson.

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North Nigeria Polo.

Polo is played in the Northern Provinces of Nigeria wherever there are sufficient Europeans at a station. Some few years ago Sir Frederick Lugard, the then Governor, stated in an annual report: "The steady diminution of deaths and serious illness is due largely to the introduction of polo, which provides the active exercise so vitally necessary in a climate like West Africa. It has become a by-word in the country that no one who plays polo is ever invalided!"

Polo is played regularly three afternoons a week at the following stations:—Kano, Kaduna, Lokoja, Zaria, Sokoto, and Maiduguri.

The ponies are all entires and average in height about 14 hands. To the ordinary risks and excitement of polo is here added the risk of having a piece bitten out of one's leg during the "riding-off" process.

The grounds are all grassless, with the exception of Kaduna (capital of Northern Nigeria); they get very dusty in the dry season, but during the wet season (from June to end of September) the grounds are in excellent condition.

The West African Frontier Force (commonly known as the W.A.F.F.) is the mainstay of polo in Nigeria and the game receives every encouragement from the various commanding officers. Officers in the Political Service who are fortunate enough to be stationed at a place where polo is played eagerly avail themselves of the chance of playing this king of games.

The cost of polo is probably less in Northern Nigeria than anywhere else in the world, but like everything else is becoming more expensive. Ponies which three or four years ago cost from £10 to £14 now command prices up to £30 and £40. Cost of feeding, etc., has correspondingly advanced.

The Bank of British West Africa have recently presented a very handsome silver cup, which is to be competed for annually.

SHOW JUMPING.

Olympia.

We could easily fill up all the space in the Journal allowed for Sporting Notes if we gave a full account of all the interesting events at this great show. We asked Lord Lonsdale to write an account, but unfortunately, owing to being one of the managing directors, he did not think he ought to do so. Now we must try and do our best, but will have to mention only events in which cavalry officers took part.

The Prince of Wales's Cup.

This International Challenge Cup, replacing the King Edward VII. Cup, for jumping over the course by teams of three officers in uniform, of any nationality, was competed for by teams representing the following countries:—

Belgium.—Lieut. J. Misonne (2nd Regt. Guides), Miss; Capt.-Commandant Count H. d'Oultremont (1st Regt. Guides), Lord Kitchener; Lieut. Henri Lamme (Army Remount Depot, Belgium), Biscuit.

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Britain.—Lieut.-Colonel Geoffrey Brooke (16th Lancers), Combined Training; Capt. T. L. Thornton (7th Hussars), Bronco; Lieut.-Colonel A. K. Main (Royal Horse Artillery), Rifle Grenade.

France.—Capt. J. des Moutis (5th Hussars), Ree; Capt. de Laissardiere (6th Dragoons), Othello; Commandant Horment (Depot de Remonte Alencon), Dignite.

Holland.—Lieut. A. T. Colenbrander (1st Royal Dutch Hussars), Spes; Lieut. A. D. C. van Zijp (1st Royal Dutch Hussars), Barbara; Lieut. Dekruyff (Riding School, Amersfoort), Chantecler.

Spain.—Capt. don Alfonso Jurado (Espana Regiment of Lancers), Temporal; Lieut. don Jose Navarro (Vitoria Regiment of Chasseurs), Damas; Lieut. Marquis de los Trujillos (Military Riding School, Madrid), Ali.

Sweden.—Capt. Gustaf O. F. Kilman (Royal Gota Artillery), Irving; Capt. Count Clarence von Rosen (Royal Life Hussars), Koks; Lieut. Count Hans von Rosen (Royal Horse Guards), Poor Boy.

The outstanding features in this competition were the fine performances of Capt. de Laissardiere (France), and Lieut.-Colonel Brooke (England), the latter on that wonderful old horse, Combined Training.

Most of the spectators would have placed Britain first, France second and Belgium third; so it was rather a surprise when the cup was awarded to Sweden, with Britain in reserve. Belgium was third, and the others in the following order: Spain, France and Holland.

The Military Ride from Aldershot.

This event comes next in importance. Unfortunately only nine out of an entry of 22 took part. All British and foreign officers on the active list were eligible to compete. Catch weights over 12 stone. The jumps on the Aldershot Steeplechase course had first to be taken, then the ride to Olympia, where the jumps were also negotiated. A pleasing feature of this event was that none of the horses at the end were unduly distressed.

Capt. Pearce's (Oxfordshire Hussars) Peter, 1; Lieut. van Burren's (Royal Dutch Hussars) Isolde, 2; Lieut. H. A. Pelly's (7th Hussars) Prudence, 3; Capt. Gill's, M.C. (6th Dragoon Guards) Ribbon, 4; Capt. W. J. Cooper's (R.H.A.) Daisy, 5; Capt. J. Wedderburn-Maxwell's (R.F.A.) Patchwork, 6.

Other events of interest to cavalry soldiers were won as follows:—

Officer's Horse exceeding 15·2 Hands.—Lieut.-Colonel G. A. Elliot's Delysia, 1; Lieut.-Colonel Geoffrey Brooke's (16th Lancers) Stanton, 2; Capt. T. Le Horn's, M.C. (16th Lancers) Flame, 3; Lieut. Dunsby's (4th Hussars) N.39269, 4.

Handy Horse Competition.—Horses to jump bush fence without wings, rails with wings, to dismount, pick up polo ball and place same in basket not more than 25 yards away, the rider leading the horse from ball to basket, mount, open and close gate, jump over a gate into a lane, and out over gate not directly opposite. Competition to be judged on time, with various penalties for faults.

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Commandant Horment's (France) Psyche, 1; Capt. de Laissardiere's, 6th Dragoons (France), Loot, 2; Lieut.-Colonel Geoffrey Brooke's (16th Lancers) Combined Training, 3; Major Walter Brooke's (2nd K.O. Yorks Light Infantry) Gladeye, 4.

JUMPING COMPETITIONS.

THE CANADIAN CHALLENGE CUP.—Capt. de Laissardiere's, 6th Dragoon Guards (France), Loot, 1; Capt. de Laissardiere's Flirt, 2; Major C. T. Walwyn's, D.S.O., M.C., Stuck Again, 3; Cavalry School, Netheravon, Pongo, 4; Major Walwyn's Rifle Grenade, 5; Cavalry School, Netheravon, Broncho, 6.

(Class 105, Fourth Competition, Section A, for Officers only.)

Capt. J. des Monti's (France) b.g. Rees, 1; Lieut. don Jose Navarro's Damos, 2; Capt. de Laissardiere's (France) Dignite, 3; Lieut.-Colonel Geoffrey Brooke's (16th Lancers) b.g. Combined Training, 4.

THE TORONTO CUP.—Officer's charger, heavy weight, undocked, must be broken charger having passed school.

Colonel J. C. Livingston Learmonth's (R.H.A.) Hercules, 1; Capt. de Laissardiere's, 6th Dragoons (France), Loot, 2; Capt. C. G. Vaughan's (Royal Horse Guards) Viscount, 3; Lieut. Pelly's (7th Hussars), Prudence, 4.

CAVALRY TROOP HORSE.—B Squadron, 3rd Hussars, chestnut gelding, 1; Lieut.-Colonel R. G. Howard Vyse's grey gelding, 2; Lieut.-Colonel R. G. Howard Vyse's black gelding, 3; C Squadron, 3rd Hussars, chestnut gelding, 4.

GUN TEAMS.—R.H.A. "N" Battery, St. John's Wood, 1; R.H.A. "N" Battery, St. John's Wood, 2; R.F.A. 9th Brigade, Farnborough, Hants, 3; R.H.A. "N" Battery, St. John's Wood, 4.

Major Faudell Phillips, who, we think, was in the 19th Hussars, took many prizes with hacks and hunters, and every one was very pleased at H.M. The King's success in the harness classes.

At the Colchester Horse Show the 5th Dragoon Guards won first and sccond in the Polo Pony Class, also first in the Heavy-weight Hunter Class; at Worley first in the Hunter Class and all three Jumping Competitions.

LOSS OF ANIMALS IN THE WAR.

It will be of interest to cavalry officers and others who had charge of animals during the war to know that the losses are the smallest percentage recorded for any campaign. This speaks well for the horsemastership when it is remembered that many men had charge of animals who had never done so before. 484,143 animals lost their lives, including 5,589 lost at sea through enemy action. This works out at less than 15 per cent. per year of the total number of animals on service. This is an extraordinary low percentage when we think what they had to go through. Camels were the chief offenders in dying. In Mesopotamia in the last year of the war 86·52 per cent. of the camels on service died. We do not know whether this return includes the loss of animals prior to being sent overseas. If not it would be of interest to know the loss at the depots at home and abroad.

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As regards the loss of camels in Mesopotamia: they are very different from horses and require special knowledge to keep them fit and well. We know that many of the officers and men had never seen a camel before, except perhaps in the Zoo, which accounts, in all probability, for the high percentage of deaths. The campaign in Mesopotamia was what we may call a side show to the events that were happening elsewhere. If it had not been, more people would realize the hard work, the bad climate and the hard fighting our troops had to overcome. It is the only place, except Palestine, where we have heard of trenches being charged by cavalry with success. This report speaks well for our veterinary department, a department that does a lot of hard work and is very seldom mentioned or thought of except by people in touch with them, who fully appreciate their work.

SPORTS.

The 1st Cavalry Brigade at Aldershot, which is composed of the 3rd, 4th and 13th Hussars, has had a busy time in the way of sport of all kinds. We are indebted to the Brigade Major for the following details of events competed for by the different regiments in the brigade.

3RD HUSSARS.

Polo.—All the officers present with the regiment at Aldershot have played during the season.

The regiment won the Ranelagh Military Handicap Tournament, the tournaments for the Wellington Novice Fortnightly Cup and the Aldershot Novice Fortnightly Cup.

It also beat Wellington in a challenge for the Wellington Open Fortnightly Cup.

Horse Shows.—Sylvia, a chestnut troop horse, which joined in 1913, and went all through the War in France, won in the class for troop horses, both at Olympia and in the Aldershot horse shows. Another troop horse gained fourth prize in the same class at Olympia.

In addition, the following prizes went to the regiment at the Aldershot show, besides a number of reserves and highly commendeds :—

1st Section Jumping (W.O. and N.C.O.'s).
2nd Light Draught Team.
3rd Novice Polo Ponies.
3rd Ladies' Hacks.

Sports.—In the Victory Sports of the 1st Cavalry Brigade, the following prizes were gained in mounted and dismounted events :

1st Dummy Thrusting.
1st Dummy Thrusting for Young Soldiers.
1st and 3rd Charging Competition.
1st Sword, Lance and Revolver.
1st Lloyd Lindsay Race.
2nd Section Tent Pegging.
1st Throwing the Cricket Ball.
1st, 2nd and 3rd Obstacle Race.
2nd and 3rd 120-Yards Hurdle Race.
2nd Long Jump.
2nd High Jump.
2nd Three-Mile.
2nd Throwing the Hammer.
3rd Quarter-Mile.
3rd Putting the Shot.
3rd 220 Yards.
1st, 2nd and 3rd Pillow Fighting.

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Shooting.—In the 1st Cavalry Brigade Rifle Meeting, which took place in conjunction with the 13th Hussars Meeting, the regiment won the Squadron Dismounted Attack Competition, the Troop Competition, combining mounted and dismounted work, and was second in the Inter-Regimental match between teams composed of the five best shots in Table A, thus gaining the Hemming Cup for the best shooting regiment in the brigade.

4TH HUSSARS.

We hear Lieut. V. P. Trew won the Army Golf Championship, played last June.

13TH HUSSARS.

FOOTBALL.—During the football season, 1919-1920, the regimental results in principal competitions were as follows :—

Aldershot Command Cup (*No. 5 Group*).—Beaten in the final by the 3rd Hussars.

Army Cup.—1st Round, 13th Hussars, bye; 2nd Round, 13th Hussars beat 17th Lancers, 5—1; 3rd Round, 13 Hussars beat Guards M.G.C., 2—1; 4th Round, 13th Hussars beat 2nd Life Guards, 3—1; 5th Round, 2nd Batt. Hampshire Regt. beat 13th Hussars, 2—1.

Aldershot Command Inter-Group Class C (*Boys*).—The regiment was beaten in the final by the Cameron Highlanders.

Aldershot Charity Cup.—Semi-final, Royal Engineers beat 13th Hussars, 5—0.

Aldershot Senior Cup.—Semi-final, R.A.M.C. beat 13th Hussars, 3—0.

BOXING.—*Aldershot Command Individual Championship, April*, 1920.—Pte. Ellis won the Middle-weights, S. S. Richards being runner up in the Welter-weights.

FENCING.—At the Fencing Unit Championships held at Aldershot, Lieut. A. Williams and Lieut. T. Williams Taylor both reached the semi-final pools in Foil and Epee, and Lieut. Williams Taylor also reached the final in Sabre.

POLO.—The regiment has had a good season's polo, the results in various tournaments being as under :—

†*Aldershot Fortnightly Challenge Cup*.—Won by the regiment, who beat Dinorbin in the final by 5 goals to 1. The regiment are still in possession of the Cup.

†*Aldershot Novice Challenge Cup*.—Both the teams of the regiment were beaten in the semi-final. The 3rd Hussars won the Cup. The regiment is now in possession of the Cup, having beaten Government House on August 18th by 5 goals to 4.

†*Wellington Fortnightly Challenge Cup*.—Played in June and won by the 13th Hussars Subalterns. The regiment holds this Cup for 1920-21.

†*Wellington Novice Challenge Cup*.—This Cup has been won by the regiment for the year.

Subalterns' Challenge Cup.—The regiment won the Subalterns' Cup, beating the 2nd Life Guards in the 1st round, the Royal Horse Guards in the 2nd round, and the 1st Life Guards in the final by 10 goals to 3.

The team was :—Mr. D. A. Stirling, Mr. J. H. Hirsch, Mr. D. J. E. Norton, and Mr. L. A. Ormrod.

† These Cups are played for every fortnight during polo season; the winners each fortnight are liable to be challenged.

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SPORTS.—*Aldershot Command Bronze Medal, March 1st*, 1920.—Sword *v.* Sword won by Sergt. Tetheridge, D.C.M.

On May 24th, 1920, the Aldershot Hospital Workers' Fund held a gymkhana; the results as far as the regiment was concerned were:—

Officers Jumping: Lieut. W. P. Madgin, 1; Lieut. C. E. Bovey, 2.

Section Tent Pegging: 13th Hussars, 2.

Victory Cup.—The regiment won the Victory Cup, open to 1st Cavalry Brigade, on June 23rd by 76 points:—13th Hussars, 464 points, 1; 4th Hussars, 388 points, 2; 3rd Hussars, 224 points, 3; 5th Brigade R.H.A., 23 points, 4.

The officers and men successfully representing the regiment were:—Dismounted Events.—Long Jump: Lieut. E. V. Dunbar, 1; Pte. Danbury, 2. 100 Yards: Lieut. E. V. Dunbar, 1; Corpl. Bush, 2. 440 Yards: Lce.-Corpl. Noakes, 1; Lce.-Corpl. Whitmore, 2. Boys' 220 Yards: Boy Smith, 1; Boy Ward, 2; Boy Lane, 3. 1 Mile: Lce.-Corpl. Noakes, 3. 220 Yards: Lieut. E. V. Dunbar, 1; Corpl. Bush, 2. Putting the Shot: Lieut. E. V. Dunbar, 1. High Jump: Lieut. E. V. Dunbar, 1; Corpl. Noakes, 3. Throwing the Hammer: Pte. Danbury, 3. 120 Hurdles: Lieut. E. V. Dunbar, 1. 3 Miles: Corpl. McKee. Relay Race: 13th Hussars. Mounted Events.—Dummy Thrusting: Officers—Lieut. K. J. H. Hirsch, 1; Lieut. W. N. N. Davies, 2; Other Ranks—Corpl. Street, 2; Lce.-Corpl. Butterfield, 3; Recruits—Pte. Harper, 2. Charging: Officers—Lieut. W. N. N. Davies, 3; Other Ranks—Corpl. Dutton, 1; Corpl. Bush, 2; Recruits—Pte. Black, 3. Sword, Lance and Revolver: Officers—Lieut. J. H. Hirsch, 1; Major Jones, D.S.O., 2; Other Ranks—Corpl. Bush, 1; Corpl. Dutton, 3. Officers Jumping: Lieut. D. A. Stirling, 1; Lieut. W. P. Madgin, 3.

The Royal Army Service Corps held the annual sports on July 14th. The regiment entered for the two open competitions, winning both:—Section Tent Pegging and Officers Jumping, Lieut. D. A. Stirling, 1. Lieut. W. Madgin and Lieut. C. E. Bovey tied for the second place.

On July 19th the 37th Brigade R.F.A. held the sports. The open jumping was won by Lieut. W. Madgin out of thirty competitors.

Sports were held on August 2nd in connection with the Reunion of Old Comrades and the unveiling of the memorial tablet to officers, W.O.'s, N.C.O.'s, and men of the regiment who fell in the War. The Inter-Troop Skill at Arms Shield was competed for and won by the 3rd Troop of "A" Squadron.

SWIMMING.—*Inter-Group Swimming, June 1st*, 1920.—In the No. 5 Group eliminating competitions held on June 1st at Aldershot the regiment was successful, as follows:—Two Lengths, Back Stroke: Pte. Darling, 1. Two Lengths, Breast Stroke: Pte. Darling, 1; Pte. Black, 2. Three Lengths, Free Style: Pte. Elliss, 2, Pte. Black, 3. Diving: Boy Agar, 2. Boys' Back Stroke: Boy Plummer, 1. Boys' Free Style: Boy Agar, 1.

We hear from the 7th Hussars at York that, owing to the regiment being under orders for India, sport of all kinds has been interfered with, many of the men and officers being on leave, prior to their departure. There has been no regimental cricket team this summer and the wet weather has greatly interfered with the

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polo. The vaulting and tent-pegging teams have, however, been in great request at the local shows, and at York both teams gave an extra fine performance. Major Thornton, of the regiment, formed one of the English team who competed, and were placed second, for the Prince of Wales's Cup at Olympia.

Olympic Sports at Antwerp.

To date the points won by the different countries are :—U.S.A., 169½ ; Great Britain, 68 ; Finland, 58½ ; Sweden, 51½ ; France, 19 ; South Africa and Italy, 16 each ; Denmark, 7½ ; Norway, 5 ; New Zealand, 5 ; Holland, 4 ; Belgium, 3.

Great Britain would certainly be nearer America if she were represented in all the field events in which the Americans are gaining points.

The Royal Scots Greys

quartered in Edinburgh, have competed in many tournaments this season, with the following results :—

Football Season, 1919-20.—Cavalry Cup, knocked out in third round. Runners up in Scottish Command Inter-Regimental Competition.

Royal Tournament, 1920.—Sword *v.* Sword (officers) : Capt. H. N. Scott-Robson, 2 ; Sword *v.* Sword (others) : S.S.M. G. C. Andrews, 3.

Command Eliminating Tournament for above.—Sabre *v.* Sabre : R.S.M. T. Elliott, 1 ; Charging Competition : Sergt. A. Robson, 1 ; Sword, Lance, and Revolver : S.S.M. G. C. Andrews, 1 ; Dummy Thrusting : S.S.M. G. C. Andrews, 1 ; Sword *v.* Sword : S.S.M. G. C. Andrews, 1 ; Sword *v.* Lance : S.S.M. H. N. Close, 1.

Scottish Command Sports Meeting, 1920.—Officers Jumping : Lieut. Earl of Altamont's Boanerges, 2 ; Other Ranks Jumping : Sergt. A. Robson, 2 ; Officers Tent Pegging : Lieut. E. S. Arthur, 3 ; V.C. Race : Pte. Crawshay, 1 ; Dummy Thrusting : Pte. Crawshay, 1 ; Wrestling on Horseback : Royal Scots Greys, 1.

Scottish Command Boxing Championships, 1920.—Welter-weights : Pte. Lowrie, 1.

Horse Show and Gymkhana

held by the 9th (Queen's Royal) Lancers at Castlerea.

On Wednesday, June 16th, a most successful Gymkhana was held at Castlerea. After many days of rain they were fortunate in having a fine day. Though the horses were standing hock-deep in mud and waders would have been more suitable than boots, there were a large number of entries and the turn-outs were excellent.

A few eliminating heats were run off in the morning. At half past one the long list of finals was started on, the results of which are shown below.

The sporting spirit of the Irish of the present day was noticeable by the lack of entries in the open events.

Judges.—Major D'Arcy, R.F.A. ; Major J. Kemple, 9th Lancers ; Capt. Hewett, 1st Royal Dragoons ; Mr. Briscoe.

Results.

1.—Judging Best Turned out Section : 3rd Troop "C" Squadron, 1 ; 1st Troop "A" Squadron, 2.

2.—V.C. Race : Ptes. Lee and Sweeny, 1 ; Corpl. Mullinger and Pte. Silk, 2.

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3.—Judging of Best Turned-out Troop-horse: Corpl. Cook's Paddy, 1; Sergt. White's 54, 2.

4.—Judging of Draught Horses (open to residents): Mr. Conolly's gr. gelding, walk-over.

5.—Judging Best Turned-out Pair of Packs: 4th Troop "C" Squadron, 1; 4th Troop "C" Squadron, 2; 2nd Troop "A" Squadron, 3.

6.—Reveille and Donnybrook Race: Headquarters Team, 1; 3rd Troop "C" Squadron, 2.

7.—Judging of Riding Horses (open to residents): Mr. Cotton, 1.

8.—Judging of Best Turned-out Pair of Light Draught Horses: "C" Squadron 1; "A" Squadron, 2.

9.—Judging of Best Troop Horse (shown in hand): Corpl. Cook's Paddy, 1; Corpl. Froggat's B54, 2; Sergt. White's 54, 3.

10.—Bare-back Wrestling: 2nd Troop "C" Squadron, 1.

11.—Judging of Donkeys: Mr. Conolly's, walk-over.

12.—Officers' Tent Pegging: Capt. Taylor-Whitehead, 1; Lieut.-Col. Cavendish, 2; Lieut. Colvin, 3.

13.—N.C.O.'s Tent Pegging: Sergt. Ballard, 1; R.S.M. Richardson and S.Q.M.S. Elmer, 2.

14.—Donkey Derby: No starters.

Jumping Competitions

held by the 9th (Queen's Royal) Lancers at Castlerea.

On Friday, July 23rd, most successful jumping competitions were held at the Camp at Castlerea.

There was a large entry in the open classes, many well-known horses and riders competing. Pongo, who last season won several prizes at Dublin and elsewhere for Colonel Tilney, was in as good form as ever, winning both open classes. The ladies were in the majority in the class open to all Ireland, and as usual were conspicuous for their horsemanship. The last event, an open consolation sweep, produced a great tussle between Miss Flannagan and Miss Grattan-Bellew, the former winning by one point after three ties.

The lance-corporals and privates made a very good show considering how many of them were recruits. Melton, who won the 9th Lancers officers' event, showed great form. 19, the winner of the N.C.O.'s class, did not seem to feel her five years of war.

The course consisted of a bush fence, gate, double wall, and water jump.

Judges.—Major Kemple, 9th Lancers; Capt. Hewett, 1st Royal Dragoons; Mr. D. Thwaites; and Mr. Briscoe.

Results.

1.—Open to Lance-Corporals and Privates of the 9th Lancers: Pte. Wray's R.S.M., 1; Pte. Olliver's Frank, 2.

2.—Open to all Officers quartered in Ireland: Capt. O'Kelly's (R.A.M.C) Pongo, 1; Major D'Arcy's (R.F.A.) Golden Treasure, 2.

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3.—Open to all Ireland: Capt. O'Kelly's Pongo, 1; Mrs. D'Arcy's Jerry and Mrs. Mills-Macdonnel's Hell (tie), 2.

4.—Open to Officers of the 9th Lancers: Col. Cavendish's Melton, 1; Capt. Lett's Polly, 2.

5.—Open to N.C.O.'s of the 9th Lancers: Sergt. Timms's 19, 1; S.Q.M.S. Wates's Rob Roy, 2.

6.—Open Consolation Sweep: Miss Flannagan's Mr. Sponge, 1; Miss Grattan-Bellew's Not so Dusty, 2.

The 4th (R.I.) Dragoon Guards have apparently quite a useful cricket team; out of six matches played the regiment won five. The Officers also beat the Sergeants' Mess team by 34 runs.

Lieut. Misa has presented an Inter-Troop Cricket Shield, which is to be played for annually. This Shield has already done a great deal to encourage and improve the men's cricket and their liking for the game.

At the Garrison Sports the regiment only lost the Garrison Challenge Cup by five points.

Lieut. Rumble won the quarter mile, Sergt. Cox the 100 yards, Bandsman Nicholls the high jump. The latter also won the high jump at the Southern Command Sports at Portsmouth and at Aldershot he tied for third place with Lieut. Nochallas, of the Bedford Regiment; 5 feet 7½ inches was his best jump.

We hear that the 14th Hussars at Tidworth won the Garrison Hockey Cup and also the Running Cup. Sergt. Jehu won the seven miles cross-country run open to the Southern Command. In mounted sports R.S.M. Goddard won the Cup for tent-pegging presented by Brig.-Gen. Pitman and the Cup presented by Major Harvey, open to regiments of the 2nd Cavalry Brigade, was also won.

At the Royal Tournament at Olympia Capt. O. J. Fooks was fourth in the Officers' Jumping Competition and R.S.M. Goddard was second in Sword *v.* Sword and third in Sword *v.* Lance.

At Bisley Capt. A. V. Pope shot in the Army Revolver Eight and R.S.M. Goddard was in the Army Sixty. Pte. Kibble won the Light-weight Boxing Competition open to the Garrison.

At the Eastern Command Tournament all the five mounted events were won by the 5th Dragoon Guards, S.S.M. R. R. Aldridge securing four of them.

The 10th Hussars were represented at the Sports held at Birchington last Easter Monday. S.S.M. Farrant won the Jumping Competition open to the whole of Kent, Sergt. May was second, Sergt. Carter third. The regiment also gave a mounted display which was much appreciated and Major Littlewood, the riding master, must be congratulated.

ALL IRELAND INTER-REGIMENTAL CRICKET TOURNAMENT.

Match held at the Curragh on August 6th and 7th, 1920. 17th Lancers (winners of 6th Division) *v.* 2nd Bn. K.S.L.I. (winners of 5th Division).

17th Lancers.—1st Innings: 115 (Capt. Boles 53 not out); Capt. Lees, K.S.L.I., took 9 wickets for 27 runs. 2nd Innings: 103 (Lieut. Fowler 39); Lieut. Hughes-Hallet, K.S.L.I., took 6 wickets for 27 runs.

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2nd K.S.L.I.—1st Innings: 58 (Lieut. Hughes-Hallet 24); Lieut. Fowler took 6 wickets for 25 runs. 2nd Innings: 57; Lieut. Fowler took 6 wickets for 26 runs.

17th Lancers won by 103 runs and should have met the winners of Dublin District in the final, but the match was unavoidably cancelled.

FOOTBALL.

We hear the 5th Dragoon Guards beat all the other military teams quartered in Colchester, but in the final for the Worthington-Evans Cup were beaten by the Colchester civilian team.

Owing to the 10th Hussars being greatly split up since their arrival in Ireland, sporting activities have been practically at a standstill. But before leaving Canterbury the regimental Association football team showed considerable promise, getting into the semi-final of the Cavalry Cup, and winning several matches against various local teams and clubs. In the meantime, though there are many very clever individual players, the team as a whole lacks combination and there is far too much fancy "gallery work" and not enough determination to "get on with it;" but if the team can get together this winter they should prove a formidable side when they learn to have greater confidence in one another and to adopt more "smashing" tactics.

Cavalry Cup.

First Round.—10th Hussars drew a bye.

Second Round.—10th Hussars beat 5th D.G.'s at Colchester.

Third Round.—10th Hussars beat 4th D.G.'s at Canterbury.

Semi-Final.—10th Hussars beaten by 12th Lancers at Aldershot.

One of the officers (D. Cross), having captained the Sandhurst Rugby XV. through a somewhat remarkably successful season, joined the regiment after the New Year and received his Army cap, representing the Army team in all the matches after Christmas until the end of the season.

He was then not yet 20, and the youngest member of the Army team. He also played forward for the Scottish XV. against the "Rest of Scotland" in the final Scottish trial at Inverleith last January.

BOXING.

British Army *v.* French Army.

This meeting, the first of its kind, was organized by the Chevrons Club and took place at the Holborn Stadium. We hope it will become an annual affair. The competition was a great success and attended by many well-known officers. Prince Henry presented the prizes, and was supported, amongst many others, by Earl Haig, Lord Desborough (who gave a cup), Lord Tweedmouth, Mr. Winston Churchill, The Vicomte de la Panouse (French Military Attache), and Colonel Fagalde, of the French Military Mission at the War Office. There were three competitions for officers and eight for other ranks. The result being a win for the British Army by eight contests to three.

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Officers' Competition.

Light-weights.—Capt. Bowstead (South African Scottish) beat Capt. E. Tornu (French Flying Corps) in the second round.

Welter-weights.—Lieut. Bayley (R.N.) beat Lieut. Agaccio (St. Cyr Military School) in the second round.

Heavy-weights.—Capt. Lilly (Dorset Regiment) beat Capt. Thibault (French Aviation Corps) in the first round.

Other Ranks.

Fly-weights.—Delvillard (French Infantry) beat A. B. Patten (R.N.) on points, after an extra round.

Feather-weights.—Stoker P. O. Cartledge (R.N.) beat Gunner Cassini (French Artillery) on points.

Bantam-weights.—Gunner Dedieu (French Artillery) beat Bugler Lake (R.M.) on points.

Light-weights.—Seaman Deeve (French Navy) beat S. M. Evans (A.G.S.) on points.

Welter-weights.—Seaman Hall (R.N.) beat Trichri (French Tank Corps) on points.

Middle-weights.—S. S. Davies (5th Dragoon Guards) beat Gunner Hellers (French Artillery) on points.

Light heavy-weights.—P.O.Spiller (R.N.) beat Compagne (France) in the first round.

Heavy-weights.—Guardsman Penwill beat Descamps (French Infantry) on points.

At the Scottish Command Boxing Champion Tournament Private Lawrie, of the Royal Scots Greys, won the Welter-weights.

The 5th Dragoon Guards seem to have a useful man with his fists in S. S. Davies, who won the Middle-weight Championship of Wales, the Army Boxing Middle-weight Championship and also events at the National Sporting Club and in Newcastle. In the competition British Army *v.* French Army he also won his bout.

SHOOTING AT HOME.

The prospects this season are good in most parts. The grouse have done well, also wild pheasants, and we hear of a few people who have reared a certain number of pheasants. Partridges hatched out well, but we fear the wet weather of the last few weeks may have reduced their numbers. Gamekeepers have been very busy trying to reduce the amount of vermin that had accumulated while most of them were away at the War. Owing to there being so little rearing of pheasants many owners of estates have reduced the number of their keepers, and we are afraid many of this deserving class are still out of employment. Farmers who used to expect the keepers to kill rats and vermin will now have to set to work themselves, unless they want most of their corn eaten by rats and their poultry killed by stoats, weasels and hawks.

Trained gun dogs are very scarce and fetching big prices. Lord Ludlow gave 200 guineas for a Labrador retriever at Mrs. Quinton Dick's sale, at Aldridges in July. This sale brought record prices, and for the 10 or 12 Labradors sold the average was between 70 and 80 guineas. Mr. Pounceby got 90 guineas for a pointer, and other trained dogs fetched big prices.

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We are glad to see that Field Trials for gun dogs are being started again. The Kennel Club held their Pointer and Setter Trials at Orwell last spring, and there were also trials in Shropshire. The list of Retriever Trials next autumn is good; most of the old ones being revived. Several trials for spaniels have been arranged, and for men who attend and run dogs at these meetings it looks like being a busy time. These trials deserve the support of all shooting men, as they have shown that dogs can be trained to do their work properly, and not be more trouble than they are worth out shooting, as in so many cases. A dog that has to be kept on a lead is a disgrace to any shooting man. Possibly gamekeepers who have failed to get places may now go in for training gun dogs, and if they are good men at it we are sure they will make money.

ARMY OF THE RHINE.

We hear General Degoutte, commanding this army, has arranged a special week at Wiesbaden. There will be one day's racing; a horse show with various tests of horsemanship, and other sports.

INDIA.

Pigsticking.

Owing to the absence on active service of most of the members of the various tent clubs in India, this sport was not carried on in the usual way. The number of pig increased to such an extent that to save the crops from damage the natives were given leave to reduce the number in any way they liked. This was carried to such an extent that when the tent clubs started again they found in many parts few ridable pig.

The Saugor Tent Club, thanks to the Cavalry School, are doing well and pig are more plentiful than in many other parts. On one occasion a large sounder of at least 50 pig broke, the whole country being covered with pig of all shapes and sizes, including about eight really good boars.

In 1914, the Muttra Tent Club accounted for 274 boar. During the War this club practically ceased to exist. The head shikari and some of his assistants were kept on until the funds were exhausted, since then the pig have been left to the tender mercies of the natives, and very few ridable pig have survived. Gharnandi, the head shikari, a very fine old sportsman, died shortly after ceasing to be employed. We expect he found life was not worth living with no pigsticking. Now the club has started again and everything is being done to improve the sport. In 1919 32 boar were killed, which is not a good record for the Leicestershire of pigsticking. When we were quartered there the usual bag was 6 to 12 pig each day. The Delhi Tent Club have been particularly unfortunate. During 1914 several large jungles, including Rohillapur, Gudharpur and Hassanpur were burnt. The Jumna caused an immense flood and many pig were drowned, the remainder being driven into the uplands. During the season 1918-1919 35 pig were accounted for, and up to May last 59. In spite of everything pig are not unduly scarce, but it is surprising to hear that the average number of spears out is only four.

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PALESTINE.

HUNTING.

I am indebted to an officer of the Queen's Bays for further details of the Vale of Acre Foxhounds. In the first place they are still hunted by Capt. Selby Lowndes, of the Gunners. This officer comes of a family in which the love of hounds and hunting is bred. We remember his father hunting the Bilsdale Hounds in Yorkshire, one of the oldest packs in England. They hunted a rough moorland country and until he took them over were a trencher-fed pack. For many years now he has hunted the East Kent Hounds. But to return to Palestine. The pack consists of eight-and-a-half couple of English foxhounds imported into the country by various people in the early part of the War. Gradually they were collected into a pack by H.Q. North Force at Haifa and were hunted there all last year. When this force was broken up the hounds were bought by the 4th Cavalry Division and brought to Sarona, where Capt. Selby Lowndes took charge. We hear the climate suits the hounds and a short time ago four bitches had litters, all of which are going on well. Owing to the impractibility of stopping the country foxes are seldom killed, but the jackal shows very good sport. From December to March hunting can be carried on at any time of the day, at other times either early in the morning or in the evening. They hunt two days a week, with usually a by day thrown in. The country carries a wonderful scent and generally a couple of jacks are accounted for. They usually take from 30 to 40 minutes to run down, but last February one stood up before the hounds for 70 minutes, giving a 12-mile point. We wish them luck with the young entry.

SHOOTING.

There is not much shooting to be had and no big game. Snipe and duck are to be had, but owing to so many sportsmen out they are very scarce and wild. Sand grouse are seldom seen. The natives, on the whole, behave well and the Arab is occasionally a sportsman. They all have a wholesome respect for the British troops, but their chief interest seems to be to demand enormous sums for anything they have to sell.

POLO.

The Queen's Bays sent their team to the open tournament at Alexandria, but had the misfortune to be knocked out in the first round. They hope to do better in the Handicap Tournament.

MESOPOTAMIA.

HUNTING.

We hear that last October a pack of hounds started hunting the country round Kut-el-Amara. The pack consists of ten couple of Persian and Slugi dogs. They hunt the jackal and kill without any assistance. It usually takes them about 30 minutes to kill, and up to May last, we are told, 350 jackals were accounted for. This sounds as if there were not many blank days. They hunt in the cold weather and the country consists of flat desert, the only obstacles being nullahs and old

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trenches. We wish them luck in the coming season, but possibly there will be other game to hunt before then.

EGYPT.

Polo.

The polo season has been a great success. The 11th Hussars took part in nine tournaments, being in the finals of eight of them. They won the Inniskilling, The Subalterns, and the Visitors. Not a bad performance, as there are several very fine Indian cavalry regiments, with great reputations at polo, also quartered there.

The 20th Hussars have been rather handicapped by being quartered at Tel-el-Kebir and only having a rough desert ground to practice on. However, they took part in seven tournaments, winning two, the Junior Cup and a handicap tournament at Bilbeis. They were also in the final for another.

The two best games witnessed in Cairo during the season were the finals for the Open and Inter-Regimental Cups. In the former the 11th Hussars lost to the 13th Indian Cavalry Brigade, whose team was composed of first class pre-War players and in the latter the Central India Horse beat the 11th by 5 goals to 2.

Sports.

Great keenness has been displayed by all ranks of the cavalry regiments in Egypt with regard to mounted sports, which have all been most successful. It has been very gratifying to see the keenness displayed by the recruits in the "skill-at-arms" competitions and other events.

Some remarkable feats were witnessed at Alexandria during the regimental sports of the 9th Hodson's Horse. One man picked up a lance, lying flat on the ground, at full gallop and then took a peg 50 yards farther on. Another man galloped down the tent-pegging course standing on two horses with a foot on each.

The 20th Hussars have had very successful sports at Tel-el-Kebir, but we have received no details.

The 11th Hussars had a large attendance at their sports at Abassieh on March 22nd. One of the most interesting events of the day was the Musical Ride, the men being dressed in the various uniforms worn by the regiment since it was first raised in 1715. The Vaulting Team also gave a very fine performance. Shortly after, the Emir Abdulla visited the regiment and a special performance of the Musical Ride was given before him, the Emir being much impressed. The Vaulting Team also performed and S.S.M. Harper gave a fine display of Cossack tent-pegging.

Shooting.

Good sport has been obtained at Tel-el-Kebir, and to officers not quartered there the hospitality of the 20th Hussars has been greatly appreciated. Thanks to them many good bags of snipe, duck, quail, and a few sand grouse have been obtained.

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Three officers of the 11th Hussars got 86½ brace of snipe in a few hours. They look on this as a record for that part of the Delta.

Boxing.

Shortly after the arrival of the 11th Hussars in Egypt they sent competitors to Alexandria to fight for the E.E.F. Championships and had great success. Sergt. Bristow won the light-weights, Sergt. Naylor the middle-weights, and Pte. Green the welter-weights. This was a good start and since then the regiment has held three tournaments, which have been most successful and attended by many spectators. The majority of the fights at each tournament were won by the 11th Hussars. We hear the 20th Hussars have several very good men in training who hope to do well at Alexandria this summer.

Football.

The football season commenced with the Cairo Military League, which was won by the 11th Hussars. They played 24 games, out of which they lost one and drew two. The 20th Hussars were unable to enter for this owing to their being quartered at Tel-el-Kebir, and not having a chance to practice their team. Later they entered for the Anglo-Egyptian Cup, but were beaten in the first round by the Scottish Rifles, who put a very good team in the field.

In the Robert Hughes Cup, open to the E.E.F., the 11th Hussars were beaten in the second round by the Middlesex Regiment.

BIG GAME SHOOTING.

We hear Capt. Brocklehurst, late 10th Hussars, has just started on an expedition to the Belgian Congo and we wish him good sport. His father was a great friend of the late Capt. Selous, the most famous big game hunter of modern times. When at home he constantly shot with him at Swythemley, in Derbyshire, but we hear he found grouse more difficult to kill than elephants. Sir Phillip, Capt. Brocklehurst's eldest brother, came of age somewhere near the South Pole while a member of one of Capt. Scott's exploring parties.

South Africa.

We hear that in Zululand an extraordinary big game drive is in progress with the object of stopping the ravages of the tsetse fly. Tribes of Zulus, armed with assegais, are joining in the drive with the hope of an unlimited supply of meat. There is little chance of the game in this district being exterminated, as many herds have broken back through the beaters. The European guns have split up into small parties, but, owing to the panic-stricken state of the game, shooting is very difficult. Game has its advantages and also its disadvantages, but it is sad to hear of this wholesale slaughter, although the object may be a good one.

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